

ROYAL DARWIN HOSPITAL INFECTION CONTROL MANUAL

Infection Control policy and procedures

Endorsed by the Infection Control Committee 25/10/2008

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Amendments

Each policy or procedure is due to be reviewed again in 2009 following the release of the new national guidelines. If a policy is not meeting the objectives or there is a change in the National Guidelines it will be reviewed prior to that date.

If a policy or procedure is changed prior to the manual revision the following steps will be undertaken:

- Infection Control, Director of Pathology, Specialists and or relevant parties will formulate a new policy following consultation and review of guidelines and legislation.
- Draft policy will be put to the Infection Control Committee (ICC) for approval.
- Once ICC approval has been given approval from RDH executive will be sought.
- The Nursing Director of Infection Control or delegate is then responsible for distribution of the amendments to each manual.

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Standard and additional precautions

The strategies for infection control described are based on current understanding of the aetiology of the infections involved and the most effective way to control them.

Prior to the 1980s infection control systems were based on identifying at risk patients and applying isolation systems or special treatments. The isolation approach failed to take into account the possibility of transmitting infections from asymptomatic individuals, particularly those with blood borne viruses and antimicrobial resistant bacteria.

In the mid-1980s HIV/AIDS epidemic created a strategy that was aimed at protecting health care workers (HCWs) from blood borne infections but did not consider adequately other body fluids (*universal precautions*). States and Territories in Australia's health departments adopted a broader approach that included all blood and body substances. They agreed that all blood and body fluids should be considered infectious and introduced the term *standard precautions*.

In 1996 the National Health and Medical Research Council (NHMRC)/ Australian National Council on AIDS (ANCA) working party adopted the terms "*standard precautions*" and "*additional precautions*".

- **Standard precautions** are work practises required to achieve a minimal level of infection control and are for the treatment of all patients. They are designed to protect both the HCW and patient.
- **Additional precautions** are recommended for patients known, or suspected to be, infected or colonised with disease agents that cause infection in health care settings and may not be contained by standard precautions alone.

Adapted From: Communicable Disease Network of Australia (CDNA) *Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting*. 2004.

Standard and additional precautions

1 Standard precautions

Policy statement	Standard precautions are used for the care and treatment of all patients, regardless of their perceived or confirmed infectious status.														
Objectives	To provide a minimum standard of infection control for all patients. Hospital Acquired Infection rate will be within thresholds set by the Infection Control Committee following the ACHS standards. Staff exposure will be avoided.														
Definitions/ Protocol	<p>Standard precautions are work practises required to achieve a minimal level of infection control and are for the treatment of all patients. They are designed to protect both the HCW and patient.</p> <p>Standard precautions apply to:</p> <ul style="list-style-type: none"> • Blood (including dried blood). • All other body fluids, secretions and excretions (excluding sweat), regardless of whether they contain visible blood. • Non-intact skin. • Mucous membranes <p>Standard precautions comprise of the following:</p> <ul style="list-style-type: none"> • Personal hygiene practises including appropriate hand hygiene before and after each patient contact and aseptic task. • Use of personal protective equipment, which may include gloves, impermeable gowns, plastic aprons, masks/face shields and eye protection. • Appropriate handling and disposal of sharps and other clinical waste. • Appropriate reprocessing of reusable equipment and instruments, including appropriate use of disinfectants. • Environmental controls, including design and maintenance of premises, cleaning and spill management. • Appropriate provision of support services such as laundry and food services. <p>Standard precautions for infection control include:</p> <table border="1"> <thead> <tr> <th>Work practise</th><th>Relevant policy</th></tr> </thead> <tbody> <tr> <td>Aseptic technique including appropriate use of disinfectants</td><td>3,4,5,8,10,12</td></tr> <tr> <td>Personal hygiene and hand hygiene</td><td>3,4</td></tr> <tr> <td>Appropriate handling of sharps and critical waste</td><td>7,8,15</td></tr> <tr> <td>Environmental controls including cleaning, spills management and maintenance</td><td>13,14,18</td></tr> <tr> <td>Appropriate reprocessing of reusable instruments</td><td>10</td></tr> <tr> <td>Appropriate provision of support services including laundry and food services</td><td>16,17</td></tr> </tbody> </table> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004.</small></p>	Work practise	Relevant policy	Aseptic technique including appropriate use of disinfectants	3,4,5,8,10,12	Personal hygiene and hand hygiene	3,4	Appropriate handling of sharps and critical waste	7,8,15	Environmental controls including cleaning, spills management and maintenance	13,14,18	Appropriate reprocessing of reusable instruments	10	Appropriate provision of support services including laundry and food services	16,17
Work practise	Relevant policy														
Aseptic technique including appropriate use of disinfectants	3,4,5,8,10,12														
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Appropriate reprocessing of reusable instruments	10														
Appropriate provision of support services including laundry and food services	16,17														
Scope and application	All HCW's and any person who is involved with patient contact, their environment or contaminated waste/equipment.														

Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008'</i> • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21 2000</i> • WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

2. Additional precautions

Policy statement	Additional precautions must be applied to patients known or suspected to be infected or colonised with infectious agents that may not be contained with standard precautions.
Objectives	Hospital acquired infection rate will be within limits set by the Infection Control Committee. Staff exposure will be avoided
Definitions/ Protocol	<p>Additional precautions are based on three transmission routes that are displayed in algorithm 1 and in more detail in the following sections. The categories are:</p> <ul style="list-style-type: none"> • Contact precautions • Droplet precautions • Airborne precautions <p>Due to the regular presentation of Crusted Scabies in the Northern Territory we have included another category:</p> <ul style="list-style-type: none"> • Skin precautions (which is an extension of contact precautions) <p>Note: Some diseases require more than one set of precautions.</p> <p>Signage</p> <p>Each additional precaution has a sign that is displayed at the entrance of each room. The sign displays the type of additional precautions and correct protective equipment required.</p> <p>Diseases requiring additional precautions are isolated in accordance with their transmission route. Some of these conditions are covered in more detail in (see table: 1 Infectious Disease Accommodation Protocol).</p>
Scope and application	All HCW's and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate additional precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

Algorithm: 1 Overview of additional and standard precaution process

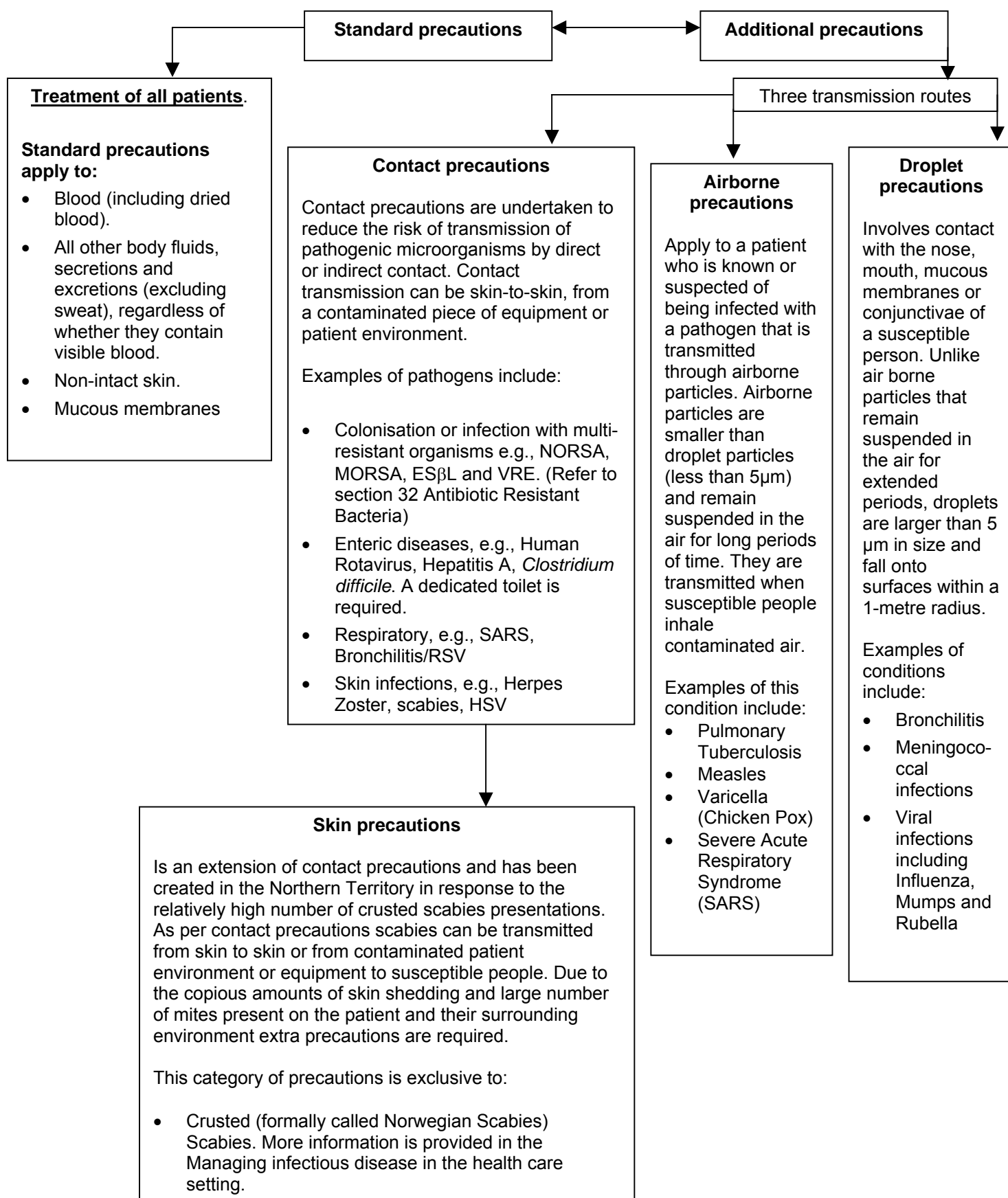


Table: 1 Infectious disease accommodation protocol

CONDITION	ISOLATION	COMMENTS
Abscesses - open	Contact precautions	While open drainage not contained by dressings
Acquired Immune Deficiency Syndrome	Standard precautions. See (section 29.5) on HIV infection.	Notifiable
Actinomycosis	Contact precaution	At medical direction
Agranulocytosis	Single room for patient protection against infection	At medical direction
Amoebiasis (see Dysentery Amoebic)	Contact precautions.	Notifiable.
Anthrax • Pulmonary • Cutaneous	Droplet precautions. Contact precautions.	Notifiable. Person to person transmission is very rare.
Acariasis	None	
Aspergillosis	Standard precautions.	
Bedsore – infected with multi-resistant bacteria	Contact precautions.	Until healed.
Bronchiolitis/croup in infants	Droplet and contact precautions.	At medical direction.
Brucellosis	None	Notifiable.
Burns • Extensive non infected	2A Burns unit.	As per burns admission protocol.
• Infected – uncovered	Contact precautions	Until healed.
Campylobacter	Contact precautions.	Notifiable. Until 3 negative cultures
Candidiasis	None	
Chancroid	None	Notifiable
Chickenpox (Varicella)	Airborne plus contact precautions	Until vesicles are dry.
Cholera	Contact precautions	Notifiable. Until three negative cultures
Conjunctivitis • Purulent, including • Gonococcal.	Contact precautions	Until 24 hours effective treatment. Notifiable.
Cryptococcosis	None	
Croup (etc.)	Droplet and contact	Paediatric isolation – at medical direction.
Cytotoxic therapy	Single room for patient protection against infection	At medical direction.
Cytomegalovirus	None	Exclude pregnant women

CONDITION	ISOLATION	COMMENTS
Dengue Fever	None	Notifiable.
Diarrhoea - all categories Inc of unknown origin <ul style="list-style-type: none"> Also see Dysentery and Enteritis <i>Clostridium difficile</i> , toxin positive	Contact precautions Contact precautions	Until 3 negative cultures. Single room or cohort cases. Entire admission and readmissions within 6 months
Dermatitis <ul style="list-style-type: none"> Severe – non infected Severe – infected 	Single room for patient protection against infection Contact precautions	At medical direction If cannot be covered.
Diphtheria – pharyngeal – Cutaneous	Droplet Contact precautions for toxin producing strains.	Notifiable. Isolate until 48 hours of therapy Notify Infection Control.
Donovanosis (Granuloma Inguinale)	None	Notifiable.
Dysentery Amoebic (Clinical)	Contact precautions	Until negative stools Notifiable.
Ebola Haemorrhagic Fever	Contact precautions - 4B VHF Unit (Area 5)	Notifiable. Do not take specimens Notify Infection Control.
Eczema <ul style="list-style-type: none"> Severe-non infected Severe-infected 	Single room. Contact precautions	Medical direction. Duration of infection.
Erysipelas	Contact precautions	Until cleared or negative culture.
Encephalitis (acute) (Australian Arbovirus)	Contact precautions	Notifiable. At medical direction. Use mosquito nets in buildings that are not air-conditioned.
Ross River Barmah Forest Other non-specified	(Hospitalisation not normally required). None.	Notifiable.
Enterocolitis <ul style="list-style-type: none"> Staphylococcal 	Contact precautions	Rapid onset and resolution.
Food Poisoning	Contact precautions	For all GIT infections until cause defined.
Clostridial	None	
Salmonella	Contact precautions	Notifiable
Shigella	Contact precautions	Notifiable
Staphylococcal	None	

CONDITION	ISOLATION	COMMENTS
Gastroenteritis in babies (e.g., Human Rotavirus, etc.)	Contact precautions	Until 3 negative cultures or at Medical direction.
Gas-gangrene	None	
German measles	See Rubella	
Glandular fever	None	
Glomerulonephritis	None	Notifiable
Gonorrhoea	None	Notifiable. See Ophthalmia Neonatorum.
Granuloma Inguinale	None	Notifiable.
Hansen's Disease (Leprosy)	None	Notifiable.
Hepatitis A	Contact precautions	Notifiable. For 7 - 10 days from onset.
Hepatitis B	Standard precautions Own toilet for postnatal patient.	Notifiable.
Hepatitis C	Standard precautions	Notifiable.
Other Viral Hepatitis infections	Contact precautions	Notifiable.
Herpes Simplex Patients (Oral, facial etc.)	None	Immunodeficient persons at risk.
Genital	Contact precautions	Isolate until vesicles dry.
Neonatal infection	Contact precautions	Until vesicles dry.
Herpes Zoster	Contact precautions Disseminated–Airborne Precautions	Until vesicles dry.
Histoplasmosis	None.	
Hookworm	None	
HTLV-1	Standard Precautions	Notifiable.
Hydatid disease	None	Notifiable.
Immune deficiency	Single room	At medical direction
Immunosuppressive therapy	Single room.	At medical direction
Impetigo	Contact precautions	Until 48 hours of treatment
Infectious Mononucleosis	None	
Influenza	Contact & droplet precautions	Up to 7 days.
Lassa Fever	Contact precautions 4B VHF Unit (Area 5)	Notifiable. Do not collect specimens. Notify Infection Control
Legionnaire's Disease	None	Notifiable.

CONDITION	ISOLATION	COMMENTS
Leprosy • Smear positive • Smear negative	Contact precautions None	Notifiable.
Leptospirosis	None	Notifiable.
Listeriosis	Contact precautions	Notifiable. Mothers and babies only.
Lymphoma	Single room	At medical direction.
Lymphogranuloma Venereum	None	Notifiable.
Madura foot	None	
Malaria	None	Notifiable.
Marburg Virus	Contact precautions 4B floor VHF Unit	Notifiable. Do not take specimens. Notify Infection Control.
Measles	Airborne precautions	Notifiable. Consult I.D. Registrar. Notify Infection Control
Melioidosis	Standard precautions	Isolate at medical direction.
Meningitis- Droplet Precautions for all cases until cause found, then: -		
• Meningococcal Infection¹	Droplet precautions	Notifiable. 2 days of treatment with Rifampicin or 24 hours of Ceftriaxone.
• Pneumococcal	None	Notifiable.
• <i>Haemophilus Influenzae</i> type b	Droplet precautions.	Notifiable. Until 4 days Rx Rifampicin
• <i>Escherichia coli</i>	None	
• Tuberculosis	None Airborne precautions if also pulmonary TB	Notifiable.
• Viral	Body substance/contact	At medical direction.
• Meningo-encephalitis (acute)	Contact precautions	Duration of illness or until poliovirus no longer detected.

¹ Ceftriaxone, Rifampicin or ciprofloxacin prophylaxis is offered to staff performing mouth-to-mouth resuscitation or intubation or those in prolonged contact with the infected patient. Consult Public Health Physician.

CONDITION	ISOLATION	COMMENTS
Mumps	Droplet precautions	Notifiable. Isolate until 9 days after onset of symptoms.
Mycobacteria (atypical)	Airborne precautions (until Pulmonary TB excluded)	Notifiable Isolate until TB excluded
Nocardiosis	None	
Ophthalmia Neonatorum	Contact precautions	Notifiable. Isolate until 24 hours treatment
Orf	None	
Paratyphoid fever/carrier	Contact precautions	Until 3 negative cultures.
Pertussis	Contact precautions	Notifiable. See whooping cough. Until 5 days treatment.
Plague	Contact precautions	Notifiable. Notify Infection Control.
Pneumonia	Droplet precautions plus Contact precautions.	At medical direction based on cause and organism antibiotic resistance.
Poliomyelitis, acute	Contact precautions	Notifiable. Until virus not detected.
Psittacosis	Contact precautions	
Puerperal sepsis <i>Streptococcus Pyogenes</i>	Contact precautions	Until negative culture.
P.U.O	Variable	At medical direction.
Q Fever	None	Notifiable.
Rabies	Contact precautions	Notifiable. Notify Infection Control.
Relapsing fever	None	Delouse patient and contacts
Respiratory Syncytial Virus (RSV) (Bronchiolitis/croup)	Airborne and contact precautions	7 days.
Rheumatic fever	None	Notifiable.
Ringworm	None	
Ross River Virus	None	Notifiable.
Rubella • Congenital	Contact precautions	Notifiable. Until negative cultures. Exclude non-immune pregnant staff/visitors.
• Post-natal and adults	Contact precautions	Notifiable. Exclude as above.
Pandemic Influenza	Contact, droplet and airborne precautions. P2 mask. Refer to appendix for CDNA guidelines. 4B VHF Unit (Area 5)	Notifiable Notify infection control Refer to Pandemic Influenza Plan.

CONDITION	ISOLATION	COMMENTS
SARS Severe acute respiratory syndrome refer to section 29.14	Contact, droplet and airborne precautions. P2 mask. Refer to CDNA guidelines. 4B VHF Unit (Area 5)	Notifiable Notify infection control Refer to CDNA guidelines.
Salmonella	Contact precautions	Notifiable.
Scabies	Contact precautions until 24hrs post treatment. Skin precautions for severe infestations.	Isolate until fully treated. Daily treatment of area with surface insecticide.
Crusted scabies (formally called Norwegian Scabies)	Skin precautions	Isolate until clearance by IFD team.
Scarlet fever	Contact precautions	Isolate until negative cultures
Shigella	Contact precautions	Notifiable.
Shingles	Contact precautions	Isolate until vesicles dry.
Smallpox	Airborne precautions. 4B Adult Isolation Unit. WHO have declared disease cleared	Notifiable. Notify Infection Control.
Staphylococcal and / or Streptococcal wound infection.	Contact precautions	If cannot be contained by dressings.
Streptococcal tonsillitis, cellulitis, Scarlet Fever	Contact precautions	At medical direction. Until 48 hours treatment.
Syphilis primary or secondary	Contact precautions	Notifiable. Isolate until treatment commenced.
Tapeworm	None	
Tetanus	None	Notifiable.
Threadworm	None	
Tonsillitis	Droplet and contact precautions	At medical direction
Toxocara	None	
Toxoplasmosis	None	Pregnant women at risk.
Trichomonas	None	
Trachoma acute	Contact precautions	At medical direction.
Tuberculosis • Pulmonary and open	Airborne precautions Negative pressure room 4B.	Notifiable (all forms) Until smear negative. Isolate suspect cases pending laboratory confirmation.
• Closed (Node, bone etc.)	Airborne precautions	Until pulmonary TB excluded.

CONDITION	ISOLATION	COMMENTS
Typhoid fever and carriers	Contact precautions	Notifiable. Until 3 negative cultures
Typhus Epidemic Typhus Scrub Typhus	Contact precautions	Notifiable (all forms). Until delousing complete
Urinary Tract Infection <ul style="list-style-type: none"> Antimicrobial resistant Microorganisms 	Contact precautions	Until negative culture.
<ul style="list-style-type: none"> Non-resistant 	None	
Vincent's angina	None	
<i>Vibrio parahaemolyticus</i> infection	Contact precautions	Notifiable. Until diarrhoea resolves.
Viral Haemorrhagic Fever (Lassa, Ebola, Marburg, etc.)	Contact precautions 4B VHF Unit (Area 5)	Notifiable. Do not collect specimens. Notify Infection Control.
Whooping cough	Droplet precautions.	Notifiable. Until 5 days of treatment
Yellow fever	Contact precautions	Notifiable.
Yersinia Infection	Contact precautions	Notifiable. Notify Infection Control.

2.1 Contact precautions

Policy statement	Contact precautions will be used when there is known or suspected risk of transmission of pathogenic microorganisms by direct or indirect contact
Objectives	Hospital Acquired Infection rate will be within thresholds set by the Infection Control Committee and ACHS standards. Staff exposure will be avoided.
Definitions/ Protocol	<p>Contact precautions are undertaken to reduce the risk of transmission of pathogenic microorganisms by direct or indirect contact. Contact transmission can be skin-to-skin, from a contaminated piece of equipment or patient environment.</p> <p>Examples of pathogens include:</p> <ul style="list-style-type: none"> • Colonisation or infection with multi-resistant organisms e.g., NORSA^a, MORSA^b, ESBL^c and VRE^d. (Refer to section 32 Antimicrobial Resistant Bacteria) • Enteric diseases, e.g., Human Rotavirus, Hepatitis A, <i>Clostridium difficile</i>. A dedicated toilet is required. • Respiratory, e.g., SARS, Bronchitis/RSV (also refer to droplet) • Skin infections, e.g., Herpes Zoster, scabies, HSV <p>A detailed list is in table 1 Infectious Disease accommodation protocol.</p> <p>Requirements of contact precautions Refer to table 2 on page 16.</p>
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate contact precautions are being undertaken. • Infection Control reviews the effectiveness of contact precautions through surveillance and outbreak monitoring. • Infection Control is responsible for initial contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

^a Multi-resistant Oxacillin Resistant *Staphylococcus aureus*. (Formally known as M.R.S.A. Methacillin Resistant *Staphylococcus aureus*.)

^b Non multi-resistant Oxacillin Resistant *Staphylococcus aureus* (formally known as M.R.S.A.)

^c Extended spectrum β -lactamase producing organism.

^d Vancomycin Resistant *Enterococcus*

Table 2: Requirements for contact precautions:

Requirements	Contact Transmission
Gloves	For all contact with patient, associated devices and immediate environmental surfaces
Impermeable apron/gowns	When HCWs clothing is in contact with the patient, patient items and/or their immediate environment.
Mask	Protect face if splash likely.
Goggles/face shields	Protect face if splash likely
Special handling of equipment	Single use or reprocess before reuse on next patient (includes all equipment in contact with patient)
Single room	If possible, cohort with patient with the same infection, e.g., MORSA
Negative pressure	No
Transport of patients	<u>Notify area-receiving patient.</u> Ensure wounds covered and no exudate is present. Also required for inter hospital transfer and the HCWs involved in the transport.
Other	Remove gloves and gown and perform hand hygiene before leaving patients room.

Adapted from: Communicable Disease Network of Australia (CDNA), 2004, *Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)*, Government of Australia, Australia

2.2 Airborne precautions

Policy statement	Airborne precautions will be used with any patient(s) who are known or suspected of being infected with a pathogen that is transmitted through airborne particles.
Objectives	Hospital Acquired Infection rate will be within thresholds set by the Infection Control Committee following the ACHS standards. Staff exposure will be avoided.
Definitions/ Protocol	<p>Airborne precautions: apply to a patient who is known or suspected of being infected with a pathogen that is transmitted through airborne particles. Airborne particles are smaller than droplet particles (less than 5µm) and remain suspended in the air for long periods of time. They are transmitted when susceptible people inhale contaminated air¹.</p> <p>Examples of these conditions include:</p> <ul style="list-style-type: none"> • Pulmonary Tuberculosis • Measles • Varicella (Chicken Pox) • Severe Acute Respiratory Syndrome (SARS) <p>Requirements for airborne precautions</p> <p>Refer to Table 3 Outline of requirements for airborne precautions, (page 18)</p> <p>Particulate filter personal respiratory protection devices (RPD).</p> <p>RPDs capable of filtering 0.3-µm particles. HCWs must wear a RPD when attending to patients with known or suspected airborne infection such as pulmonary tuberculosis. Currently our P2 RPD masks are the orange duck billed masks or 3M (white) 1870 surgical mask.</p> <p>Note: P2 is the approved rating in Australia AS/NZS. It is equivalent to the N95 rating for Respiratory Protection Devices in USA standards.</p> <p>These masks can be labelled and worn by the same HCW for an entire shift and discarded at completion. The exceptions are:</p> <ul style="list-style-type: none"> • It needs to be replaced if it is worn for four hours straight. • It also needs to be replaced if it becomes wet or soiled. <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. NSW Health Department <i>NSW infection Control Policy</i> 2002</small></p>
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased nosocomial rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i> 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003 • CDNA <i>Interim Australian Infection Control Guidelines for SARS</i>. April 2004

	<ul style="list-style-type: none"> • WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate additional precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

¹ NSW Infection Control circular 2002/45 "Infection Control Policy" NSW Health Department. June 2002

Table 3: Outline of requirements for airborne precautions:

Requirements	Airborne transmission
Gloves	Nil
Impermeable apron/gowns	Nil
Mask	P2 particulate respirator for Pulmonary Tuberculosis, Pandemic Influenza and SARS only. All others surgical mask.
Goggles/face shields	Protect face if splash likely
Special handling of equipment	As per standard precautions
Single room	Yes, negative pressure for Pulmonary TB and SARS. Door closed
Negative pressure	Essential for Pulmonary TB and SARS
Transport of patients	Surgical mask for patient. <u>Notify area receiving patient</u>
Other	Provide one metre between patients ward accommodation if cohorted. Perform hand hygiene at appropriate moments, as per WHO recommendations.

(Adapted from CDNA)

2.3 Droplet precautions

Policy statement	Droplet precautions apply to patients known or suspected to be infected with pathogens that can be transmitted by droplets.
Objectives	Hospital Acquired Infection rate will be within thresholds set by the Infection Control Committee following the ACHS standards. Staff exposure will be avoided.
Definitions/ Protocol	<p>Droplet transmission involves contact with the nose, mouth, mucous membranes or conjunctivae of a susceptible person. Unlike air borne particles that remain suspended in the air for extended periods, droplets are larger than 5 µm in size and fall onto surfaces within a 1-metre radius¹.</p> <p>Examples of these conditions include:</p> <ul style="list-style-type: none"> • Bronchilitis • Meningococcal infections • Viral infections including Influenza, Mumps and Rubella <p>Requirements for droplet precautions</p> <p>Refer to Table 4 Outline of requirements for droplet precautions, (page 20)</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004.</small></p>
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21 2000</i> • WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate additional precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

¹ NSW Infection Control circular 2002/45 "Infection Control Policy" NSW Health Department. June 2002

Table 4: Requirements for droplet precautions:

Requirements	Droplet transmission
Gloves	As per standard precautions
Impermeable apron/gowns	As per standard precautions
Mask	Yes- surgical mask Staff must wear a mask when caring for patients with pathogens (i.e. MRSA or MRSA) in respiratory secretions if within 1 meter and the patient has a productive cough. ^a
Goggles/face shields	Protect face if splash likely
Special handling of equipment	As per standard precautions
Single room	Yes, or cohort patients with the same infections. Door closed
Negative pressure	No
Transport of patients	Surgical mask for patient. <u>Notify area receiving patient</u>
Other	Provide one metre between patients bed on the ward if cohorted. Perform hand hygiene after leaving the patients room

^a Wearing a mask when caring for MRSA patients may reduce nasal acquisition of MRSA by HCWs (John M Boyce, MD. Uptodate www.uptodate.com. Epidemiology; prevention; and control of methicillin-resistant *Staphylococcus aureus* 2004)

2.4 Skin precautions

Policy statement	Skin precautions will be used when there is known or suspected risk of transmission of scabies mite by direct or indirect contact.
Objectives	Hospital Acquired Infection rate will be within thresholds set by the Infection Control Committee following the ACHS standards. Staff exposure will be avoided.
Definitions/ Protocol	<p>Skin precautions:</p> <p>Is an extension of contact precautions and has been created in the Northern Territory in response to the relatively high number of crusted scabies presentations. As per contact precautions scabies can be transmitted from skin to skin or from contaminated patient environment or equipment to susceptible people. Due to the copious amounts of skin shedding and large number of mites present on the patient and their surrounding environment extra precautions are required.</p> <p>This category of precautions is exclusive to:</p> <ul style="list-style-type: none"> Crusted (formally called Norwegian Scabies) scabies. More information is provided in the Managing infectious disease in the health care setting (refer to section 31.4). <p>Requirements for skin precautions:</p> <p>Refer to Table 5: Outline of requirements for skin precautions, (page 22)</p> <p>Housekeeping:</p> <p>Refer to environmental cleaning additional precautions, section 13.2</p> <p>Kitchen staff:</p> <ul style="list-style-type: none"> Meal trays must be delivered to the patients in their room and not left outside. Nutrition is an important factor in the recovery of this condition. Theatre boots a pair of gloves and a long sleeve gown should be worn when entering the room. Avoiding contact with the patients and their environment negates the requirement for pants and hat. Remove protective clothing before leaving the room and wash your hands upon leaving.
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2011 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. Draft 2002 version 3. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>. CDC 2003 <i>Healthy skin program: Guidelines for the community control of scabies, skin sores and crusted scabies</i>. NTG. WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.

Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate additional precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
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Table 5: Requirements for skin precautions:

Requirements	Skin transmission
Gloves	For all contact with patient, associated devices and immediate environmental surfaces. Cuff of glove must fully cover the gown to prevent mite's access to skin around the wrist area.
Impermeable apron/gowns	Long sleeve gowns are required to protect forearms and are to be worn prior to entering the room. Scrub pants and shoe covers are also required for high levels of infestation.
Mask	Protect face if splash likely
Goggles/face shields	Protect face if splash likely
Special handling of equipment	Single use or reprocess before reuse on next patient (includes all equipment in contact with patient)
Single room	Yes, single room
Negative pressure	No
Transport of patients	<u>Notify area-receiving patient.</u> Cover patient with long sleeve gown, gloves, theatre cap, booties and pants depending on extent of infestation.
Other	Remove gloves, gowns and any other protective clothing prior to leaving the room. Wash hands upon leaving patients room. Spraying shoes with insecticide is an occupational health and safety risk. If large amount of skin shedding is present booties or rubber boots must be worn.

2.5 Protective isolation

Policy statement	Immunocompromised patients will be accommodated away from areas that place them at higher risk of contracting a nosocomial infection.
Objectives	Hospital Acquired Infection rate will be within thresholds set by the Infection Control Committee following the ACHS standards. Staff exposure will be avoided.
Definitions/ Protocol	<p>The technique of protective isolation (reverse Barrier Nursing) has been eliminated due to the lack of any demonstrable effect. Infections in immunocompromised patients are usually due to their own endogenous flora. With the main nosocomial route being unwashed hands of HCWs.</p> <p>Severely immunocompromised patients (i.e., neutropaenic with a neutrophil counts $\leq 0.5 \times 10^9 \text{ mL}^{-1}$) should be in a single room, or accommodated separately from those known or likely to have an infection. Staff and visitors with respiratory tract infections should be restricted. Strict hand hygiene is imperative.</p> <p><small>Adapted from: Southern Queensland Infection Control Network <i>Infection Control Manual</i> 2000</small></p>
Scope and application	All HCWs and any person who is involved with patient contact or their environment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i> (2004). Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008 WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.
Compliance and responsibilities	<ul style="list-style-type: none"> The managers of each unit have a responsibility to ensure adequate additional precautions are being undertaken. Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

2.6 Maintaining additional precautions

Policy statement	Additional precautions are maintained by following an isolation protocol listed in definitions. It is to be used with patients known or suspected to be infected or colonised with infectious agents that may not be contained with standard precautions.
Objectives	Hospital Acquired Infection rate will be within thresholds set by the Infection Control Committee following the ACHS standards. Staff exposure will be avoided.
Definitions/ Protocol	<p>SARS and Viral Haemorrhagic Fever are exceptions to the following and have special requirements. Refer to the Managing Infectious Diseases in the Health Care Setting, section 29. The following practices are required to maintain Additional Precautions:</p> <p>Patient equipment</p> <ul style="list-style-type: none"> • Patients should be allocated their own equipment when possible. • Limit the amount of furniture and equipment taken in to the isolation room. • Reusable equipment should be cleaned with detergent and water prior to reuse on other patients. Normal disinfection and sterilisation procedures apply. <p>Cleaning of isolation rooms</p> <ul style="list-style-type: none"> • Housekeeping staff are to apply with relevant additional precaution. • Following the “clean to dirty” work flow principal isolation rooms should be attended last. • Isolation rooms require high cleaning upon patient discharge or transfer. In the case of airborne precautions a mask should be worn when entering the room, for at least two hours following discharge. <p>Linen</p> <ul style="list-style-type: none"> • Minimise contact and shaking of patient linen. • Place dirty linen into skip inside the room. Soiled/wet or infested linen needs to be placed in red plastic laundry bag inside the skip. <p>Crockery and utensils</p> <ul style="list-style-type: none"> • Disposable crockery and utensils are not recommended • Should be cleaned in the same manner as all other utensils <p>Waste</p> <ul style="list-style-type: none"> • Is to be placed into a clinical waste bin which is to be situated inside each isolation room • Handle as per standard precautions <p>Patient movements and transfers</p> <ul style="list-style-type: none"> • Additional precautions are to be maintained throughout any patient transfers. • Inform receiving area of patient's additional precautions prior to transfer. • Minimise traffic.

	<p>Employee health</p> <ul style="list-style-type: none"> Some conditions require immune staff to look after specific conditions, i.e., chicken pox <p>Education</p> <ul style="list-style-type: none"> Educate the patient and visitors regarding measures to prevent transmission. <p>Adapted from:</p> <ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 Communicable disease unit Queensland health. <i>Infection Control Guidelines</i> Nov 2001 RDH <i>Infection Control Standards</i> 2001
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008 WHO guidelines on Hand Hygiene in Healthcare settings (Draft) 2006.
Compliance and responsibilities	<ul style="list-style-type: none"> The managers of each unit have a responsibility to ensure adequate additional precautions are being undertaken. Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

Effective work practices and procedures

3 Hand hygiene	
Policy statement	<p>Hand-hygiene is the single most important hygiene measure in preventing the spread of infection.</p> <p>Hand hygiene must be performed before and after patient contact, patient zone contact, aseptic task and exposure to body fluids.</p>
Objectives	<ul style="list-style-type: none"> • Hospital acquired infection rates will be within those set by the RDH Infection Control Committee and ACHS clinical indicators. • Improve compliance and understanding of correct hand hygiene techniques. • Improve hand care
Definitions/ Protocol	<p>Indications for handwashing and hand antisepsis</p> <p>A. Wash hands with soap and water when visibly dirty or contaminated with proteinaceous material, or visibly soiled with blood or other body fluids, or if exposure to potential spore-forming organisms is strongly suspected or proven (IB) or after using the restroom (II).</p> <p>B. Preferably use an alcohol-based handrub for routine hand antisepsis in all other clinical situations described in items listed below, if hands are not visibly soiled (IA). Alternatively, wash hands with soap and water (IB)</p> <p>C. Perform hand hygiene:</p> <ul style="list-style-type: none"> • before and after having direct contact with patients (IB) • after removing gloves (IB); • before handling an invasive device for patient care, regardless of whether or not gloves are used (IB); • after contact with body fluids or excretions, mucous membranes, non-intact skin, or wound dressings (IA); • if moving from a contaminated body site to a clean body site during patient care (IB); • after contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient (IB) <p>D. Wash hands with either plain or antimicrobial soap and water or rub hands with an alcohol- based formulation before handling medication or preparing food (IB).</p> <p>E. When alcohol-based handrub is already used, do not use antimicrobial soap concomitantly (II)</p> <p>Hand hygiene technique</p> <p>A. For alcohol hand rub: make sure hands are not wet (with water) before use. Apply a palmful of the product and cover all surfaces of the hands. Rub hands until hands are dry (IB). Do not rinse with water. (The technique for handrubbing is illustrated on page 31.)</p>

B. When washing hands with soap and water, wet hands with water and apply the amount of product necessary to cover all surfaces. Vigorously perform rotational hand rubbing on both hand palms and backs, interlace and interlock fingers to cover all surfaces. Rinse hands with water and dry thoroughly with a single-use towel. Use running and clean water whenever possible. Use towel to turn off tap/faucet (IB) (The technique for handwashing is illustrated on page 31.)

C. After alcohol or soap make sure hands are dry. Use a method that does not recontaminate hands. Avoid using hot water, as repeated exposure to hot water may increase the risk of dermatitis (IB)

Recommendations for surgical hand preparation

A. If hands are visibly soiled, wash hands with plain soap before surgical hand preparation (II). Remove debris from underneath fingernails using a nail cleaner, preferably under running water (II)

B. Sinks should be designed to reduce the risk of splashes (II).

C Remove rings, wristwatch, and bracelets before beginning the surgical hand preparation (II). Artificial nails are prohibited (IB).

D. Surgical hand antisepsis should be performed using either an antimicrobial soap or an alcohol-based handrub, preferably with a product ensuring sustained activity, before donning sterile gloves (IB).

E. When performing surgical hand antisepsis using an antimicrobial soap, scrub hands and forearms for the length of time recommended by the manufacturer, 2 to 5 minutes. Long scrub times (e.g. 10 minutes) are not necessary (IB)

F. When using an alcohol-based surgical handrub product with sustained activity, follow the manufacturer's instructions. Apply the product on dry hands and forearms only (IB).

G. Do not combine surgical hand scrub and surgical handrub with alcohol-based products sequentially (II).

H. When using an alcohol-based product, use sufficient product to keep hands and forearms wet with the handrub throughout the procedure (IB).

I. After application of the alcohol-based product as recommended, allow hands and forearms to dry thoroughly before donning sterile gloves (IB)

	<p>Use of gloves</p> <p>A. The use of gloves does not replace the need for hand cleansing by either handrubbing or handwashing (IB).</p> <p>B. Wear gloves when it can be reasonably anticipated that contact with blood or other potentially infectious materials, mucous membranes, or non-intact skin will occur (IC).</p> <p>C. Remove gloves after caring for a patient. Do not wear the same pair of gloves for the care of more than one patient (IB).</p> <p>D. When wearing gloves, change or remove gloves during patient care if moving from a contaminated body site to a clean body site within the same patient (II).</p> <p>E. Change or remove gloves after touching a contaminated site and before touching a clean site or the environment (II).</p> <p>7. Other aspects of hand hygiene</p> <p>A. Do not wear artificial fingernails or extenders when having direct contact with patients (IA).</p> <p>B. Keep natural nails short (tips less than 0.5 cm long) (II).</p> <p>The above standards are directly from the WHO Guidelines on Hand Hygiene in Healthcare (Advanced Draft 2006).</p>
Scope and application	All staff.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased nosocomial rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>, 2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2003</i> Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21 2000</i>
Compliance and responsibilities	<ul style="list-style-type: none"> The managers of each unit have a responsibility to ensure adequate hand hygiene procedures are being undertaken. Infection Control reviews the effectiveness of hand hygiene through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial hand hygiene education for every

	<p>employee at orientation. Ongoing education is also provided in response to problems being identified.</p> <ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
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WHO Guideline on Hand Hygiene in Healthcare Ranking system for evidence

It was agreed that the CDC/HICPAC system for categorizing recommendations be adapted as follows:

Category IA. Strongly recommended for implementation and strongly supported by well-designed experimental, clinical, or epidemiological studies.

Category IB. Strongly recommended for implementation and supported by some experimental, clinical, or epidemiological studies and a strong theoretical rationale.

Category IC. Required for implementation, as mandated by federal and/or state regulation or standard.

Category II. Suggested for implementation and supported by suggestive clinical or epidemiological studies or a theoretical rationale or a consensus by a panel of experts.

HAND HYGIENE: HOW, WHEN AND WHY?

Why?

- Around the globe thousands of people die every day of infections acquired while receiving health care.
- Hands are the main pathways of germ transmission during health care.
- Hand hygiene is the most important measure to avoid the transmission of harmful germs and to prevent health care-associated infections.
- This brochure explains how and when to practice hand hygiene.

Who?

Any health worker, caregiver or person involved in patient care needs to be concerned about hand hygiene.

How?

- Clean your hands by **rubbing them with an alcohol-based formulation**, if available. It is faster, more effective, and better tolerated by your hands.
- **Wash your hands with soap and water** when hands are visibly soiled and if an alcohol-based formulation is not available.

How to handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS ONLY WHEN VISIBLY SOILED!

Duration of the entire procedure: **20-30 sec.**



How to handwash?

WASH HANDS ONLY WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB!

Duration of the entire procedure: **40-60 sec.**



Please remember

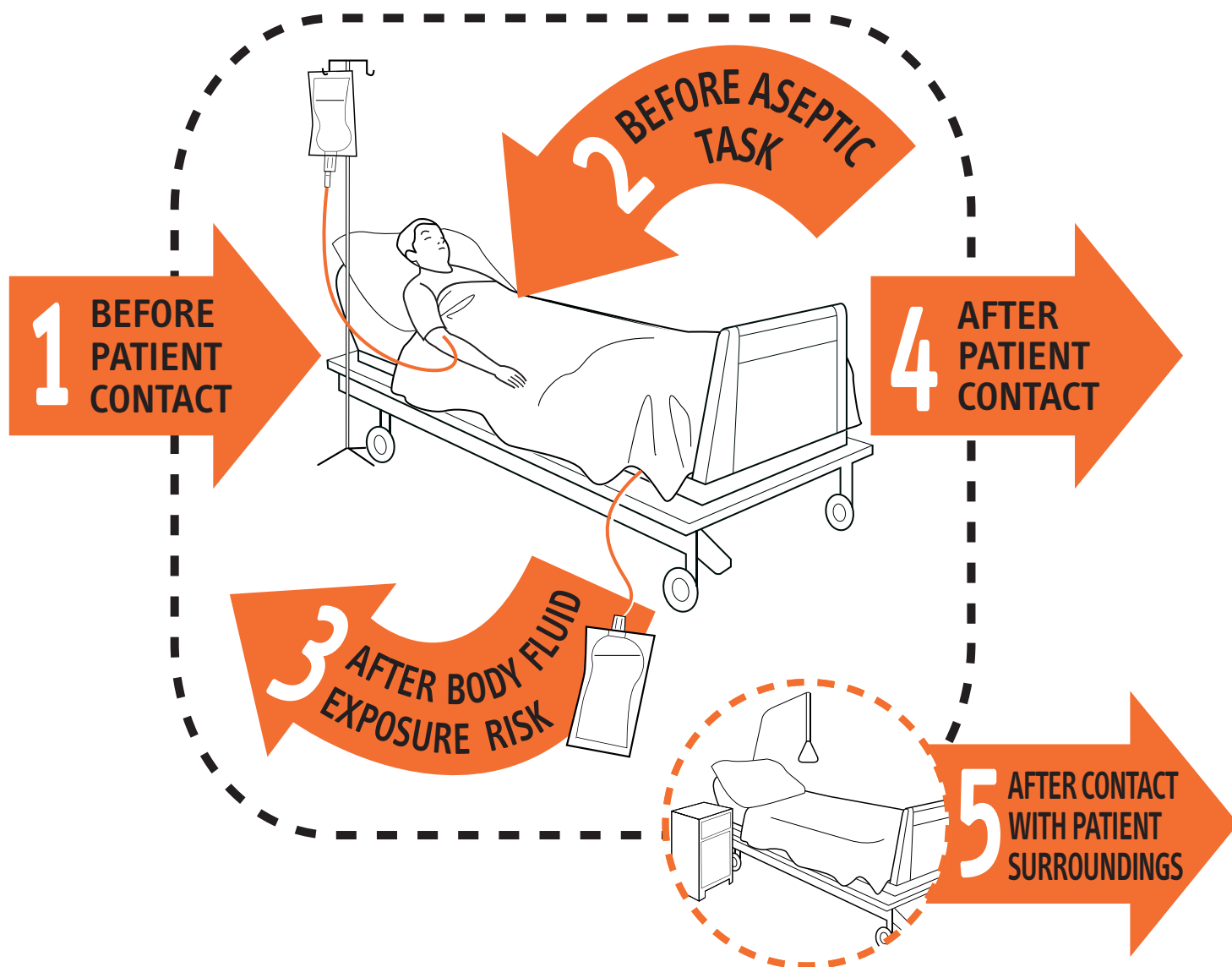
- Do not wear artificial fingernails or extenders when in direct contact with patients.
- Keep natural nails short.

Hand care

- Take care of your hands by regularly using a protective hand care cream or lotion, at least daily.
- Do not routinely wash hands with soap and water immediately before or after using an alcohol-based handrub.
- Do not use hot water to rinse your hands.
- After handrubbing or handwashing, let your hands dry completely before putting on gloves.

WHEN?

Your 5 moments for HAND HYGIENE*

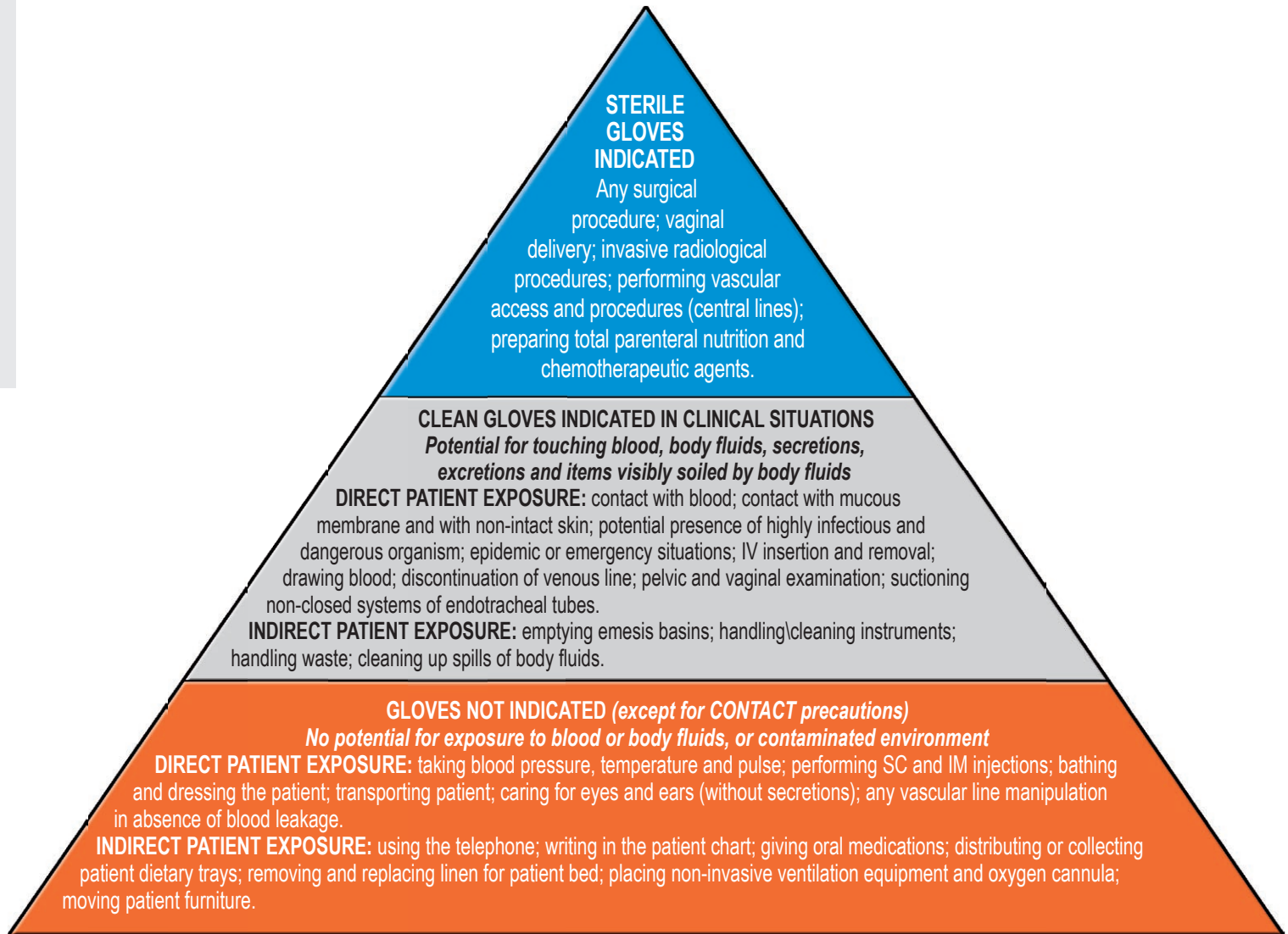


* Hand hygiene must be performed in all indications below regardless of the fact that gloves are used or not.

1 BEFORE PATIENT CONTACT	<p>WHEN? Clean your hands before touching a patient when approaching him or her*</p> <p>WHY? To protect the patient against harmful germs carried on your hands</p>
<p>EXAMPLES:</p> <ul style="list-style-type: none"> - Courtesy and comfort gestures: shaking hands, stroking an arm - Direct physical contact: helping a patient to move around, to get washed, giving a massage - Clinical examination: taking pulse, blood pressure, chest auscultation, abdominal palpation 	
2 BEFORE AN ASEPTIC TASK	<p>WHEN? Clean your hands immediately before any aseptic task*</p> <p>WHY? To protect the patient against harmful germs, including the patient's own germs, entering his or her body</p>
<p>EXAMPLES:</p> <ul style="list-style-type: none"> - Contact with mucous membrane: oral/dental care, giving eye drops, secretion aspiration - Contact with non-intact skin: skin lesion care, wound dressing, any type of injection - Contact with medical devices: catheter insertion, opening a vascular access system or a draining system - Preparation of food, medications, dressing sets 	
3 AFTER BODY FLUID EXPOSURE RISK	<p>WHEN? Clean your hands immediately after an exposure risk to body fluids (and after glove removal)*</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs</p>
<p>EXAMPLES:</p> <ul style="list-style-type: none"> - Contact with mucous membrane and with non-intact skin, as detailed in the indication "before aseptic task" - Contact with medical devices or clinical samples: drawing and manipulating any fluid sample, opening a draining system, endotracheal tube insertion and removal - Clearing up urine, faeces, vomit - Handling waste (bandages, napkin, incontinence pads), cleaning of contaminated and visibly-soiled material or areas (lavatories, medical instruments) 	
4 AFTER PATIENT CONTACT	<p>WHEN? Clean your hands after touching a patient and his or her immediate surroundings when leaving*</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs</p>
<p>EXAMPLES:</p> <ul style="list-style-type: none"> - Courtesy and comfort gestures: shaking hands, stroking an arm - Direct physical contact: helping a patient to move around, to get washed, giving a massage - Clinical examination: taking pulse, blood pressure, chest auscultation, abdominal palpation 	
5 AFTER CONTACT WITH PATIENT SURROUNDINGS	<p>WHEN? Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving - even without touching the patient*</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs</p>
<p>EXAMPLES:</p> <ul style="list-style-type: none"> - Changing bed linen, perfusion speed adjustment, monitoring alarm, holding a bed rail, cleaning the night table 	

HAND HYGIENE AND GLOVE USE

- Use of gloves does not replace the need for cleaning your hands.
- Remove gloves to perform hand hygiene, when an indication occurs while wearing gloves.
- Discard gloves after each task and clean your hands - gloves may carry germs.
- Wear gloves only when indicated (see examples in the pyramid below) - otherwise they become a major risk for germ transmission.



Gloves must be worn according to STANDARD and CONTACT PRECAUTIONS. The pyramid details some clinical examples in which gloves are not indicated, and others in which clean or sterile gloves are indicated. Hand hygiene should be performed when appropriate regardless indications for glove use.

Glossary

Alcohol-based formulation: an alcohol-containing preparation (liquid, gel or foam) designed for application to the hands to kill germs.

Aseptic task: a task during which no germ should be transmitted.

Body fluids: blood; excretions like urine, faeces, vomit; secretions like saliva, tears, sperm, milk, mucous secretions; exudates and transudates like, lymphatic, cerebrospinal fluid, ascitis (except sweat).

Hand care: actions to prevent skin irritation.

Hand hygiene: any action of hand cleaning (generally performed either by handrubbing with an alcohol-based formulation or handwashing with soap and water).

Handrubbing: treatment of hands with an antiseptic handrub (alcohol-based formulation).

Handwashing: washing hands with plain or antimicrobial soap and water.

Indication: moment during health care when hand hygiene must be performed to prevent harmful germ transmission and/or infection..

4 Personal hygiene

Policy statement	Staff are required to meet adequate levels of personal hygiene.
Objectives	Hospital acquired infection rates will be within those set by the RDH Infection Control Committee and ACHS clinical indicators.
Definitions/ Protocol	<p>To maintain adequate hygiene:</p> <ul style="list-style-type: none"> • Uniforms should be clean and in good condition. • Long hair should be tied back or covered. • Beards should be covered when undertaking aseptic or sterile procedures. • Keep nails short, clean and free of polish/artificial nails. • Shower frequently/at least daily and wear clean clothing. • Remove rings and watches prior to undertaking surgical hand wash. • Wear white gowns or plastic aprons only for standard or additional precautions. • Except in an emergency remove theatre scrubs before leaving theatre suite. • Hand hygiene as described in section 3. <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004RDH Infection Control Standards 2001</small></p>
Scope and application	All HCWs and any person who are involved with patient contact.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased nosocomial rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate staff hygiene is being undertaken. • Infection Control reviews the effectiveness of staff hygiene through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial staff hygiene education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

5. Aseptic Technique

Refer to Royal Darwin Hospital Evidenced based manual for Nursing Practice 2008

http://internal.health.nt.gov.au/hospital/rdh/rdh_evidence_based_manual_001.pdf

6 Single dose vials

Policy statement	Single dose vials are the most effective way to avoid cross infection during administration of a medication via injection (CDNA). Single dose vials or pre-filled syringes are required to be used.
Objectives	To eliminate the risk of transmission of a nosocomial blood borne disease through the administration of an injectable medication.
Definitions	<p>Multi dose vials and multi dose products:</p> <p>As advised by the Australian Drug Evaluation Committee should not be used. The only exception is for products such as insulin, which are intended solely for the individual use of an individual patient.</p> <p>Insulin pens and vials must:</p> <ul style="list-style-type: none"> • Be labelled with a patient name and hospital number and be used exclusively for that patient. • Have the needle discarded immediately after use and a new needle applied prior to the next administration. Do not recap with the needle still attached. If the patient recaps the insulin pen then it should be taken to the nearest sharp container and be removed with the correct needle-removing device. • Have an insulin needle-removing device attached to a sharps container or situated near by. Do not remove by hand. • Be drawn up using a clean syringe and needle on each occasion. • Only be in the current patients immediate working environment and not another patient's bedside. <p>When single dose vials are unavailable</p> <p>Multi dose vials can be used under the following circumstances:</p> <ul style="list-style-type: none"> • It can only be used for one patient and must be discarded after use. • Drawing up of all contents of the container into individual syringes before commencing to administer the contents to patients. • Having only the current patients medication in the immediate working environment. • Discarding any open vials at the end of each procedure. <p>Only exceptions in the RDH are listed below. <u>A used needle or syringe must never come in contact with the vial.</u></p> <ul style="list-style-type: none"> • BCG refer to administration procedure (refer to section 6.1) • Tubersol Refer to the Australian Immunisation Handbook for storage and administration information. <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004.</small></p>
Scope and application	All HCWs and any person who are involved in medication administration.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines.
Associated legislation and other strategic	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004.

documentation	<ul style="list-style-type: none"> • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • NHMRC <i>the Australian Immunisation Handbook 9th Edition</i> 2008 • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure single dose vials are being used. • Infection Control is responsible for initial single dose vial education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

6.1 BCG

Policy statement	BCG administration will comply with NHMRC Immunisation guidelines. A used needle or syringe must never come in contact with the vial.
Objectives	<ul style="list-style-type: none"> To ensure potency of vaccine To minimise the risk of a nosocomial blood borne disease through the administration of an injectable medication.
Definitions/ Procedures	<p>Key points re BCG</p> <ul style="list-style-type: none"> NT- BCG given at birth for Indigenous neonates, neonates living in Indigenous communities and neonates born to mothers who have been treated for Hansens Disease (nee leprosy) Must be reconstituted with supplied diluent. Supplied in a dark coloured glass vial to protect from light (sunlight and fluorescent). Reconstituted vaccine is very unstable (heat labile). Reconstituted vaccine cannot be frozen. Reconstituted BCG must be discarded after one working session (6 hours NT, WHO). <p>Procedure with multi-dose BCG vial</p> <ul style="list-style-type: none"> A separate syringe with a large gauge needle (21G) should be used for drawing up diluent and mixing vaccine; Discard mixing syringe and needle in sharps container when reconstitution completed; and Return reconstituted vaccine to refrigerator until needed to vaccinate a child. Protect the reconstituted BCG from light exposure when out of the refrigerator; Use sterile disposable insulin syringe to draw up a single dose when required for administration to an infant; Return vial of BCG to refrigerator until required; and Discard any remaining reconstituted BCG after 6 hours or at end of the day, which ever comes first. <p><u>A used needle or syringe must never come in contact with the vial.</u></p> <p><small>Adapted from: NHMRC <i>the Australian Immunisation Handbook 8th Edition</i> 2003</small></p>
Scope and application	HCWs involved with the storage and administration of BCG vaccine.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA or NHMRC guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 NHMRC <i>the Australian Immunisation Handbook 9th Edition</i> 2008

Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • CDC reviews the effectiveness of immunisation programs through surveillance and outbreak monitoring and implements a response when required. • Individual wards/units are responsible for education regarding the administration of BCG. CDC or Infection Control provides ongoing education in response to problems being identified.
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7 Sharps handling

Policy statement	Sharps are the major cause of incidents involving potential exposure to blood borne disease. Staff responsible for handling sharps will be familiar and utilise the correct method of handling.
Objectives	Minimise/reduce staffs potential exposure to blood borne diseases.
Definitions	<p>To reduce the risk of potential exposure to a blood borne disease sharps must be handled in the following manner:</p> <ul style="list-style-type: none"> • All sharps must be disposed of in an appropriate yellow sharps disposal container as per Australian Standard. They should be sealed and discarded when 3/4 full. • HCWs when finished using a sharp are responsible for its safe disposal. This task cannot be delegated. • Never re-sheath a needle. • Sharps must never be passed by hand to another colleague. • Ideally a sharp disposal container should be proximal to the point of use. If this is not the case sharp needs to be carried in a container to the nearest sharps bin. • Needle less systems such as "interlink" should be used at every possible opportunity. Sharps must not be used with this system. Administration ports which cannot be used with the needle less system should be changed to a needle less system port e.g., i.e., s/c butterfly lines. • Each sharps bin should have an insulin needle-removing device attached or situated near by. Do not remove by hand.
Scope and application	Any person who is involved with sharp handling.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines or increased exposure rates.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>, 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • AS 4031, AS/NZS 4261, AS/NZS 3816,1998. <i>Sharps and puncture proof containers</i> • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • NHMRC <i>National Guidelines for Waste Management in the Health Care Industry</i>, 1999
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate sharp handling is being undertaken. • Infection Control reviews the effectiveness of sharp handling through surveillance of exposure rates and implements a response when required. • Infection Control is responsible for initial sharp handling education for every employee at orientation. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

8 Personal protective equipment (PPE)

Policy statement	<p>Personal protective equipment is required to be worn in the following situations:</p> <ul style="list-style-type: none"> • When there is a risk of coming in contact with blood or body fluids. • Contact with non intact-skin or rashes • Contact with mucous membranes <p>Each ward/unit is to provide readily available personal protective equipment.</p>
Objectives	<ul style="list-style-type: none"> • To provide the health care worker with protection from blood, body fluids and other pathogens. • To reduce the number of exposure related incidents.
Definitions/ Protocol	<p>Personal protective equipment includes:</p> <ul style="list-style-type: none"> • Examination and surgical gloves. • Eye and/or facial protection. • Surgical facemasks and respirators designed for protection against respiratory pathogens. • Gowns and aprons. • Footwear to protect from dropped sharps and other contaminated items. <p>Gloves (Also refer to section 3)</p> <p>Gloves must be worn when it is likely that hands may become contaminated with blood, body fluids, secretions or other pathogens.</p> <p>The following applies:</p> <ul style="list-style-type: none"> • Gloves must be changed and hand hygiene performed before and after each patient procedure. • Gloves must be changed and hand hygiene performed during multiple procedures on the same patient if there is a risk of cross contamination. • Gloves are not a substitute for appropriate hand hygiene. • Gloves must be changed and hands hygiene performed when the gloves become broken or torn. • Surgeons in operating rooms are required to double glove. • Gloves are to be worn whilst undertaking phlebotomy. <p>Gloves must be appropriate to the task:</p> <ul style="list-style-type: none"> • Sterile gloves for procedures requiring a sterile field, involving normally sterile areas of the body. • Non-sterile gloves for procedures that do not require a sterile technique. • Utility gloves for housekeeping activities. <p>Facial protection</p> <p>Facial protection must be worn where there is a potential for splashing of blood or body substances. Protective eye wear and face shields must be worn when at risk and available in all areas. Face shields/masks must be water repellent.</p>

Masks

HCWs as well as wearing masks for protection for splashes are required to wear them when the possibility for airborne infection exists. We have two types of masks at the RDH:

- Surgical masks - which are fluid repellent paper filter masks worn during surgical procedures for HCWs protection. Also used to prevent HCWs respiratory secretions from contaminating an operative site.
- Particulate filter personal respiratory protection devices (RPD). RPD's capable of filtering 0.3-µm particles. HCWs must wear a RPD when attending to patients with known or suspected airborne infection such as pulmonary tuberculosis. Currently our RPD masks are the orange duck billed masks or 3M (white) 1870 surgical mask.

Masks:

- Must not be touched by hand while being worn.
- Need to cover both nose and mouth when being worn and assure an airtight seal.
- Need to be removed as soon as practicable if they get wet or become visibly soiled.
- Not be worn loosely around the neck and be removed as soon as practicable.
- When using P2 masks for TB they can be labelled and worn by the same HCW intermittently for an entire shift. They need to be discarded at the completion of the shift. The exception is that they need to be discarded after a maximum of four continuous hours of use.

Gowns and plastic aprons

- HCWs should wear gowns when at risk from blood or body substances contamination.
- Fluid resistant gowns should be worn if there is a risk of large amount of body fluid contamination.
- Sterile gowns must be worn in all aseptic procedures requiring a sterile field.
- Operating attire is not to be worn outside the operating room environment.

Short-sleeved white gowns are appropriate:

- For patients to wear in preparation for operations or investigative / therapeutic procedures.
- Staff to wear while caring for patients with additional precautions/contact precautions.

Long sleeved white gowns are appropriate:

- For staff to wear while caring for patients with severe infestations (crusted scabies etc).
- The cuffed gown allows gloves to be worn to protect hands and forearms from exposure to mites.

Long sleeved sterile green wrap-around surgical gowns are appropriate:

- For staff to wear while performing sterile procedures. The sleeves and front panels of these gowns are made from a waterproof fabric to prevent blood and body fluid strike through.

	<p>Scrub suits are worn to keep 'street dirt' out of operating theatres.</p> <ul style="list-style-type: none"> This hospital provides scrub suits for operating theatre personnel to change from street / outside clothing into clean, laundered theatre attire of a closely woven material. Scrub suits are not made from a barrier fabric and do not prevent undergarments or skin from contamination by blood and body fluids. They should never be worn instead of impermeable or fluid resistant gowns / aprons. <p>Footwear</p> <p>HCWs must wear enclosed footwear to protect them from injury or contact with sharps and body fluids.</p> <p>Adapted from:</p> <ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>, 2004 RDH Infection Control Standards 2001 Queensland Government Communicable Disease Unit. <i>Infection Control Guidelines</i> 2nd edition 2001.
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines or increased nosocomial and/or staff exposure rate.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>, 2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. AS/NZS 4011, AS/NZS 4179 gloves AS/NZS 1336, AS/NZS 1337 eyewear AS/NZS 1715, AS/NZS 1716, AS/NZS 4381 masks AS 3789.2 AS 3789.3 gowns Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000
Compliance and responsibilities	<ul style="list-style-type: none"> The managers of each unit have a responsibility to ensure protective equipment is being used and supplied. Infection Control reviews the effectiveness of the use of protective equipment through surveillance of exposure rates. A response is implemented when objectives are not being met. Infection Control is responsible for initial protective equipment education for every employee at orientation. Ongoing education is also provided in response to problems being identified. Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. It is the Employers responsibility to provide readily available protective equipment. It is the employee's responsibility to wear the provided equipment in the appropriate situations.

9 Health care workers/Immunisation/TB screening

Policy statement	HCWs are required to be aware of their immunisation status and all staff are required to have TB screening. All recommended immunisations for HCWs and TB screening will be offered free of charge.
Objectives	Health care workers are protected from vaccine preventable diseases. HCWs will not transmit infections such as influenza, rubella, varicella, TB and pertussis to susceptible patients.
Definitions/ Protocol	<p>Health care workers are associated with an increased risk of some vaccine preventable diseases. Furthermore, health-care workers may transmit infections such as influenza, rubella, varicella and pertussis to susceptible patients¹.</p> <p>Recommended immunisations</p> <p>For those at risk of occupationally-acquired vaccine preventable disease are listed below:</p> <p>Hepatitis B (HBV)</p> <p>HBV is recommended for all health care workers directly involved in patient care, embalming or handling of human blood or tissue. Post-immunisation serological testing 4 weeks after the third dose is recommended for HCWs. For those who have not sero-converted and who are not surface antigen positive refer to the Australian Immunisation Handbook 9th edition for non-responder management. Hepatitis B immunoglobulin (HBIG) should be offered within 72 hours for anyone who is exposed to HBV with no documented HBV antibody response.</p> <p>Measles, Mumps and Rubella (MMR)</p> <p>(MMR) is offered to all HCWs born after 1960. All health care workers born after 1960 should have evidence of receiving 2 doses of MMR vaccine. Antibody status should be checked for women of childbearing age at beginning of employment.</p> <p>Hepatitis A</p> <p>Is recommended for all HCWs who attend paediatric patients or attend rural and remote indigenous communities. Pre-immunisation serological testing for antibodies to hepatitis A is recommended.</p> <p>Influenza</p> <p>Vaccine offered to all HCWs and is available from February each year. Availability advised by fliers.</p> <p>Varicella Zoster</p> <p>Is offered to all seronegative HCWs involved in direct patient care. Clinical history or serological testing (in the absence of a positive history) pre-immunisation is recommended</p> <p>Pertussis</p> <p>As adult diphtheria-tetanus-acellular pertussis vaccine (dTpa, Boostrix) is offered to all HCWs in clinical settings.</p> <p>The immunisations are provided free of charge are available at the OPD Staff Immunisation Clinic held weekly. Access is by ringing ext. 27885 (RDH staff only)</p> <p>TB screening</p>

	<p>Screening for TB is recommended for anyone who engages in direct contact with people at risk of having TB. Such screening for Department of Health and Community Services Staff is a compulsory component of employment conditions. These guidelines cover staff, volunteers and students. Screening and any necessary treatment is provided free to employees.</p> <p>Recruitment provides new clinical and industrial staff with a form for checking health status, immunisations and for conducting compulsory TB screening at the TB Clinic in Block 4, RDH Campus. Mantoux screening for staff is on Mondays, Tuesdays and Fridays. Phone 28804 to arrange testing and follow-up reading.</p> <p>Mantoux screening, for non-reactive staff, is required on commencement, yearly and on resignation. Screening aims to detect early infection prior to disease presentation. This ensures appropriate exposure management and prophylaxis.</p> <p>Adapted from the NHMRC Australian Immunisation Hand Book 9th edition 2008 and Centre for Disease Control <i>Northern Territory Hepatitis B Vaccination Policy</i>. 2000.</p>
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. National Health and Medical Research Council (NHMRC) The Australian Immunisation Handbook 9th edition 2008. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003 Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 Department of Health and Families, CDC http://www.health.nt.gov.au/Centre_for_Disease_Control/Immunisation/index.aspx
Compliance and responsibilities	<ul style="list-style-type: none"> Infection Control reviews the effectiveness of staff immunisation programmes through surveillance, outbreak monitoring and implements a response when required. Infection Control in association with CDC run staff immunisation sessions in response to disease outbreaks. Infection Control is responsible for initial immunisation education for every employee at orientation. Ongoing education is also provided in response to problems being identified. Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. HCWs are responsible to be up to date with immunisations. At commencement of employment they can book into the immunisation clinic on 27885 if immunisations are required or status is unknown

¹ National Health and Medical Research Council (NHMRC) The Australian Immunisation Handbook 8th edition 2003.

10 Reprocessing of reusable instruments and equipment

Policy statement	Reprocessing of instruments and equipment, which includes cleaning, disinfection and/or sterilisation will meet Australian Standards.
Objectives	Hospital acquired infection rate will be within a range set by the Infection Control Committee and ACHS.
Definitions	<p>Any infectious agents introduced into a sterile body site can establish infection. Infectious agents are always present on the skin and are carried through the air on dust particles. In order to achieve sterile conditions during procedures, attention must be given to potential sources of contamination. Effective reprocessing of reusable instruments involves:</p> <ul style="list-style-type: none"> • Cleaning immediately after use to remove organic residue and chemicals and either; • Disinfection by heat and water or chemical disinfection: or • Sterilisation. <p>Routine processing</p> <p>Instruments and equipment must be reprocessed to a level appropriate for their intended use. The appropriate level depends on the body sites where the instrument will be used and the risk associated with a particular procedure. Minimum levels of reprocessing required are listed in table 8.</p> <p>CJD</p> <p>Refer to section (30.9)</p> <p>Storage of equipment</p> <p>All equipment is to be stored in CSD or clean designated storerooms in each ward and unit. Packaged instruments and equipment are to be stored in a clean, dry environment and protected from sharp objects that may damage the packaging. Any product that has been punctured or in contact with dirt or moisture should be discarded if single use or returned to CSD for reprocessing. Refer to Sterilising Services Procedure and Protocol manual for further information on storage of sterile instruments.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004</small></p>
Scope and application	Any person who is involved with reprocessing of instruments or equipment.
Review cycle and responsibilities	Due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased Hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2003</i> • AS 4187 AS/NZS 4815 cleaning, sterilisation and processed instrument storage.

Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure minimum standards for reprocessing are undertaken. • Infection Control and CSD are jointly involved in the development and ongoing assessment of disinfection policies and procedures • Sterilising Services have the responsibility of reprocessing instruments/equipment in accordance with Australian Standards. • Each ward and unit is responsible for initial reprocessing education. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
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Table 8: Minimum level of reprocessing required

Level of Risk	Application	Process	Storage	Example
Critical	Entry or penetration into sterile tissue, cavity or bloodstream	Sterilisation by steam under pressure, or a minimum of an automated low-temperature chemical sterilant system, other liquid chemical sterilant or ethylene oxide sterilisation.	<p>Sterility must be maintained:</p> <ul style="list-style-type: none"> • Packaged items must be allowed to dry before removal from the steriliser • The integrity of the wrap must be maintained • Store to protect from environmental contamination <p>Unpackaged sterile items must be used immediately</p>	<p>Instruments, endoscopes and accessories used in invasive surgical and dental procedures^a including:</p> <ul style="list-style-type: none"> • Hysteroscopes • Arthroscopes • Laparoscopes • Oral surgical instruments • Rigid bronchoscopes • Flexible bronchoscopes • Cystoscopes[¶] <p>Podiatry instruments capable of penetrating or abrading the skin (scalpels, nail cutters, scalers, files) Neurological testing sharps, forceps etc used on non-intact tissue.</p>
Semi-critical §	Contact with intact non-sterile mucosa (or non-intact skin)	Heat-tolerant items Preferably steam sterilisation where possible, or a minimum of thermal disinfection	Store to protect from environmental contamination	<p>Breathing circuits, vaginal speculae</p> <p>Special conditions apply to CJD refer to (30.9)</p>
Semi-critical §	Contact with intact non-sterile mucosa (or non-intact skin)	Heat sensitive items If equipment will not tolerate heat, use low temperature automated chemical sterilant systems or a minimum of high-level chemical disinfection.	Store to protect from environmental contamination	<p>Flexible endoscopes:</p> <ul style="list-style-type: none"> • Fiberoptic scopes • Sigmoidoscopes • Gastrosopes • Colonoscopes • Bronchoscopes <p>Invasive ultrasound probes</p> <p>Special conditions apply to CJD refer to (30.9)</p>
Non-critical	Contact with intact skin	Clean as necessary with detergent and water. If decontamination is required, disinfect with a compatible low or intermediate level disinfectant	Store in a clean dry place	<p>Non invasive devices</p> <ul style="list-style-type: none"> • Stethoscopes • Sphygmomanometers • Blood pressure cuffs • Thermometers • Abdominal ultrasound

^aAn invasive procedure is defined as surgical entry into tissues, cavities, or organs, or repair of traumatic injuries.

[¶]These items enter sterile sites and should therefore be sterile. However in practice, they are made from materials that do not withstand steam sterilisation. If a low-temperature chemical sterilisation system is available it should be used for these items, otherwise they should be high level chemical disinfected

§These categories reflect current practice-sterilisation is preferred where possible. Processing standards should evolve to accommodate changes in equipment design and emerging technologies in sterilisation processes.

Communicable Disease Network of Australia (CDNA) *Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting*. 2004

10.1 Reprocessing/cleaning of equipment and instruments

Policy statement	Cleaning of instruments prior to disinfection and/or sterilisation will meet Australian standards. Standard and when appropriate Additional Precautions will be used when cleaning equipment.
Objectives	Hospital acquired infection will be within limits set by RDH Infection Control Committee and ACHS. Staff exposure will be avoided.
Definitions/ Protocol	<p>Cleaning</p> <p>Cleaning is a prerequisite for an effective disinfection and sterilisation process to remove organic residue that may prevent the disinfectant or sterilant contacting the item being processed and may also bind and inactivate chemical disinfectants.</p> <ul style="list-style-type: none"> • If the item cannot be cleaned then it cannot be disinfected or sterilised. • Standard precautions must be used during cleaning. • An area must be dedicated for the cleaning process only. (Refer to Sterilising Services Policy and Procedure manual for unit protocol) • Initial cleaning must take place immediately after use and as close as possible to the point of use. • Items are to be cleaned with detergent and should not be allowed to dry before cleaning. <p>Manual cleaning procedure/sterilising</p> <p>All channels or bores of instruments or equipment such as rigid or flexible endoscopes are cleaned thoroughly. Instruments that are washed manually should be rinsed and cleaned in a sink or bowl specifically designed for that purpose, using the following procedure:</p> <ul style="list-style-type: none"> • Wear a plastic apron, general-purpose utility gloves and face protection (protective eye mask and shield). Take care to prevent splashing of mucous membranes or penetration of the skin by sharp instruments. • Remove gross soiling by carefully rinsing in warm (15-18 °C) water • Fully disassemble instruments and immerse in warm water and a suitable detergent that is biodegradable, non-corrosive, nonabrasive, low foaming and free rinsing. • Remove all visible soiling from the instrument or equipment using established methods and reference with manufacturer's recommendations • Rinse instruments in hot water to assist the drying process, unless contraindicated • Dry mechanically in drying cabinet or hand dry with clean lint-free cloth (note: items must not be left in ambient air to dry) • Inspect instruments and equipment to establish if the item is clean before further processing or storage • Cleaning brushes should be identified for cleaning only and should be washed, thermally disinfected, and stored to dry.

	<p>Manual cleaning/ward areas</p> <p>Cleaning in ward areas must take place in designated “dirty” areas. Areas that are designated “dirty” include the sinks in the utility area on general wards. Ward cleaning process:</p> <ul style="list-style-type: none"> • Standard precautions must be used. General-purpose utility gloves and face protection (protective eye mask and shield). Take care to prevent splashing of mucous membranes or penetration of the skin by sharp instruments. • Remove gross soiling by rinsing in warm (15-18 degrees C) water. • Then wash in warm water and detergent. • Items are then to placed in a puncture and leak proof container and transferred to the designated CSD collection area for reprocessing. <p>Manual cleaning/operating rooms</p> <p>Cleaning of instruments will comply with the Australian College of Operating room Nurses guidelines. Theatre staff shall:</p> <ul style="list-style-type: none"> • Coordinate the sterilisation of instruments as soon as possible after cleaning. • Cover instrument trolleys until transportation to CSD. • Use lidded containers and leak proof plastic bags for transportation. <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004</small></p>
Scope and application	All HCW's and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within RDH Infection Control Committee limits.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • AS/NZS 4187 • Australian College of Operating room Nurses <i>Standards, Guidelines and Policy Statements</i> May 2002
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate reprocessing is being undertaken. • Infection Control in consultation with CSD reviews the effectiveness of reprocessing through surveillance and outbreak monitoring and implements a response when required. • Each department are responsible for initial reprocessing education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

10.2 Instruments and equipment requiring special reprocessing

Policy statement	Instruments and equipment will be reprocessed to meet the minimum level of reprocessing as required by the Australian Standards.
Objectives	Hospital acquired infection will be within levels set by the RDH infection Control Committee and ACHS.
Definitions/ Protocol	Refer to table 9 for reprocessing requirements Anaesthetic equipment <ul style="list-style-type: none"> Bacterial–viral anaesthetic filters must be attached to anaesthetic circuits used for adult patients. Filter must be positioned to provide protection for both inspiration and expiration lines. Bacterial–viral filters must be changed after each patient and circuit components on the patient side of the filter must be discarded or be resterilised in a manner appropriate for each item. If the breathing circuit does not use the bacterial–viral filter, the breathing circuit must be discarded, or be cleaned and disinfected, after each patient use.
Scope and Application	All health care workers and any person who is involved with reprocessing of instruments and/or equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased nosocomial rate or failing to fall within Infection Control thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian and New Zealand Standards™ AS/NZS 4187. 2003 Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>
Compliance and responsibilities	<ul style="list-style-type: none"> The managers of each unit have a responsibility to ensure minimum levels of reprocessing are being undertaken. Infection Control in association with the Anaesthetic Technicians and Central Sterilising Department reviews the effectiveness of reprocessing and the compliance with Australian Standards. Each department is responsible for initial reprocessing education for every employee at orientation. Ongoing education is also provided in response to problems being identified. Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

Table 9: Reprocessing requirements

ITEM	STANDARD	
Ampoules	Wipe with 70% alcohol injection swab. Do not immerse.	Epidural drugs are pre-packed.
Anaesthetic equipment <u>Operating Theatres/Recovery:</u> Paediatric. Circuits, facemasks, rebreathing bags etc.	Rinse, scrub and process in anaesthetic equipment decontaminator. Silicon clean with detergent and autoclave	TB: Face masks double wash in decontaminator only. Re-breathing bag wash and send to CSD for autoclaving.
Magill's semi-disposable Anaesthetic machine Circuits (Adult)	Protect with in-line bacterial-viral filter while in use. Discard circuits weekly or immediately if blood contamination of surface occurs. Filter also connected to respiratory side and changed daily.	A new in-line filter is used for each general adult/large child anaesthetic.
Disposable bacterial/viral (heat/moisture exchange) filter	Disposable single use unit. Use new filter for every anaesthetised patient.	Single patient use up to 48 hours in ICU.
Fibre-optic laryngoscope.	Clean with soft brush in cold water to remove debris. Autoclave laryngoscope blade at 134°C.	Steam sterilisation is preferred to soaking in 70% alcohol.
Circuits, connectors and other non-disposable items.	Wash in anaesthetic equipment decontaminator or autoclave. (See instructions for individual machine brands).	Consult CSD or Anaesthetic Technicians re items suitable for processing in anaesthetic equipment decontaminator.
Spontaneous breathing circuit and Fisher Paykel closed water humidifier system.	Single patient use. Clean circuit in anaesthetic equipment decontaminator after each case. Humidifier chamber is disposable. Change after each patient.	
Respirator Temperature. Probes.	Anaesthetic Technician: - clean and soak in alcohol.	
<u>Ward Resus trolley items:</u> Face masks.	Wash in detergent, rinse and dry, process in anaesthetic equipment decontaminator.	
Laryngoscope- blades.	Remove bulb. Wash with soft brush to remove debris and soak in 70% alcohol solution for 30 minutes.	
- handle	Clean with alcohol wipes. Do not immerse.	

ITEM	STANDARD	
ETT tubes and airways Leardal Resuscitator	Single use disposable. Wash dry and send to CSD for autoclaving	
Bed pans and urinals Bed Pans And Urinals Conventional pans.(See additional comments for Slipper pans)	Flusher / sanitiser after use. (85° C x 5 minutes is the heat: time ratio required to kill heat resistant <i>Enterococcus</i> species). Use cream cleanser if additional cleaning required.	To prevent <u>slipper pan</u> floods: Place narrow end of slipper pan over water jet, then place a conventional bedpan in the pan-holder frame to prevent water being forced out of sanitiser door.
Bed unit. Bed, mattresses, pillows.	Terminal cleaning. Wash mattress, pillows, bed base and frame with soapy water. Remove all adhesive residue. Dry well.	Additional precautions: Use detergent then with poly-phenolic disinfectant. Check covers for tears. Use waterproof tape as temporary repair only and report damage to CNM
Locker, bed table.	Daily: Outside of locker and bed table cleaned by cleaning staff after patient breakfast. Terminal: Clean inside and outside of locker. Clean wardrobe.	Additional precautions: as above
Chair, bed frames and bed cradles.	Wash with detergent solution and dry.	
Patient lifters and slats.	As above. Wash slats before and after use.	See linen section for washing material slings.
Bowls Sponge bowl and other hygiene equipment.	Wash in detergent and retain for same patient or rinse well and send to CSD for terminal cleaning before re-issue to another patient.	Additional precautions: - wash in detergent solution, dry, place in clear plastic bag and send to CSD for washing.
Utility (vomit) bowl.	Wash well before sending to CSD for terminal cleaning.	Additional precautions: As above.
Cardiac monitors	(ICU) Wipe over with detergent solution or use alcohol impregnated wipe clean.	
Catheters All types	Disposable. Remove ASAP. Use aseptic technique when handling.	Guide for IDC length of use: <u>Foley</u> (silicone coated) 1wk. <u>Silastic</u> (100% silicone) 6wks

ITEM	STANDARD	
Crockery/Cutlery		
General wards: Meal trays, water jugs and other kitchen items returning to the general kitchens do not require soaking in patient isolation rooms before being returned. Refer to Viral Haemorrhagic Fever and SARS (Section 29) for exceptions.		
Meal tray and contents	Catering section: dishwasher. Note: Gloves are NOT required to hand out or collect patient meal trays. Heavy duty gloves to be worn in Kitchen to load dishwasher.	Disposable items are only indicated for exotic diseases in quarantine or if requested by CNC. ISOP (7B) Disposable plates. Milk cups are washed in kitchen dishwasher. (Bulk)
Water Jugs. <i>Alert: Only ICE from kitchen is to be added to patient drinking water.</i>	Kitchen dishwasher. Collected, washed and replaced daily by Kitchen Staff.	Suspect VHF - retain jug in patient room and refill as required. Discard when no longer required.
Denture holders	Use disposable holder.(Printed label and lid).	
ECG equipment (technicians)		
Leads and non-disposable electrodes.	Wipe with damp cloth and detergent solution. Dry using alcohol wipe.	
Disposable electrodes.	May be multi-use for single patient. Discard when no longer required.	
Electro-medical equipment		
Includes blood warmers, oxygen analysers, temperature monitors and similar items.	Clean to manufacturer's specifications. Use detergent. Do not soak.	Additional precautions: Use alcohol wipe to disinfect surface after cleaning. Inspect to ensure clean.
Haemodialysis machines.	Use heat decontaminator in-built in unit(s) or chlorine solution as per unit protocols. Wipe over outside of machine with non-corrosive detergent solution between uses.	All decontamination at unit level using appropriate liquid chemicals or heat.
Hair clippers / razors		
3M® rechargeable, battery operated clippers.	Use single use-head and discard after each patient.	Wipe over body of clipper with alcohol wipe after each use. Store clean and dry. Re-charge battery ready for use.
Gillette G11® Razors	Disposable head	

ITEM	STANDARD	
Infant feeding bottles Plastic. (Babies and toddlers) Teats / Dummies	Single patient use, wash in detergent solution. Rinse well. Single patient use, wash in detergent solution. Rinse well.	Single use disposable bottles are not reprocessed.
Infant isolators	Wash with detergent solution and dry.	Refer to manufacturer's instructions for care.
Instruments <u>Invasive non-disposable items.</u> (i.e. penetrates tissue or body cavity). Non-disposable needles.	Refer to reprocessing protocols. Section 10 Wear heavy-duty gloves. Flush needles well with <u>tepid water</u> . Place in puncture resistant tube supplied with tray and return to CSD for re-processing.	Do not use packaged items if package damaged, wet, dropped on floor or placed on a dirty surface.
Prion contaminated items (Group 1 and Group 2) Creutzfeldt-Jakob Disease and other Human Transmissible Spongiform Encephalopathy's. (Refer to CJD policy 30.9)	Use disposable items where available. Contact Infection Control for specific advice if case suspected. Refer to CJD policy 30.9	
<u>Invasive disposable items</u> <u>Non-invasive instruments.</u>	Single use disposable. i.e., use for <u>one patient on one occasion only</u> , and then discard. 1. Wash and dry. High-level decontamination or autoclave before re-use. 2. For tonometer and non-autoclavable red rubber bellows - wash, soak in 1:10 Milton × 10 minutes.	Do not attempt to re-sterilise and / or re-use single use invasive disposable instruments. Re-processing approved for cord clamp removers (Maternity & SCN) and Staple removers. Bladders of bellows will perish if autoclaved at 121°C
Earpieces for auroscopes.	Disposable: discard.	Non-disposable earpieces: Clean and dry, soak in hibitane tincture 70% alcohol. Autoclave metal earpieces.

ITEM	STANDARD	
Vaginal speculum.	Disposable: single use-discard immediately after use.non-disposable - thoroughly clean and autoclave.	<u>Alert:</u> aqueous based disinfectants are NOT suitable for disinfecting vaginal specula
IVACS / IMEDS/ALARIS Infusion pumps and similar.	Damp dust with detergent. Wipe with alcohol wipes. Refer to manufacturer's notes.	
Linen Sheets, pillowslips, blankets, gowns, hospital shifts. <u>Alert:</u> When necessary linen requirements are on additional precaution Cards. It is not necessary to use a red bag for linen from most isolation rooms. Exception: Viral Haemorrhagic Fevers, SARS (refer to section) Green "Sterile" linen Sheep skins & Kylie sheets ® Material Lifter Slings.	Send used linen to laundry in material laundry bags. Do not overfill. Tie top of bag using a slipknot or closing device. Heat and chemicals decontaminate linen. IMPORTANT: Do not place instruments or medical items in linen bags. These items injure staff and damage the machines. Keep separate. Clear plastic bag. Label with ward name. Sheep skins are processed in small low-temp (75°C) machine. As for Sheepskins and kylie sheets.	Linen grossly contaminated with blood / body substances or from patients with <u>scabies</u> must be sealed in red plastic bag with dissolvable stitching. Double bag red bags into material bag and tie top. Foul / infected linen processed through foul wash cycle in laundry. Red bags are not opened before being placed in machines. (Minimises linting). Additional precautions: Use one set of material slings per patient. Wash if soiled/ no longer required.
Mattresses & pillows	Wash in ward with detergent.	Additional precautions: zip-closed cover for all pillows. Check inner pillow for damage and replace.
Oral suction equipment Tubing bottles and bung. Tubing (Disposable). Suction Catheters. (Disposable, single use item)	Change at end of each shift. Wash in detergent, dry and send to CSD. Theatre, ICU, Birthing Suite, Emergency Dept., SCN and ENT clinic use disposable suction systems. Discard in yellow clinical waste if containing body substance. Discard after single use. Discard into yellow clinical waste bags.	<u>Alert:</u> Separate suction lines are used for ETT and oral suction in ICU when a closed ETT suction system is in use. This avoids "opening" the closed system. This limits the possible introduction of microorganisms

ITEM	STANDARD	
Closed system suction catheters.	Used in SCN and ICU for ventilated patients.	ICU change catheter @ 48 hours.
Oral sucker.	Follow unit set up, use and disposal protocol.	Discard in yellow clinical waste bags.
<i>Twin-O-Vac®</i> .	Disposable, discard daily.	Use one line for oral suction and a second line for ETT suction. Do not share lines.
	Wash well, bag and send to CSD for washing in Hobart Washer.	Autoclaving not recommended but indicated when heavily contaminated. Anaesthetic Tech's will problem solve.
Oxygen therapy equipment - Refer all inquiries to Anaesthetic Technicians.		
Humidifiers (Disposable unit).	Change after 7 days or discard earlier if no longer required for patient care. Use Sterile Water for irrigation in jar.	
Oxygen tubing.	Single use per patient.	
Flow Meter.	Wipe well with damp cloth. Do not immerse.	
Oxygen masks / nasal catheters/ Nebuliser masks	Single use per patient. Discard when no longer required by patient.	Discard mask or nebuliser if it is visibly dirty. Replace with new equipment. Do not clean with tap water.
Paediatric resuscitation equipment - Refer all inquiries to Anaesthetic Technicians.		
Valves and gauges.	Clean with alcohol wipes.	
Portex swivel connector and tubing.	Wash, dry and send to CSD for autoclaving.	Change tubing daily when in use.
Laerdal mask.	Wash, dry and send to CSD for autoclaving.	
Paediatric. Laerdal Resuscitator.	Wash, dry and send to CSD for autoclaving.	Autoclavable except for oxygen reservoir bag.
Patient's clothing	Patient clothing - bag and send home with next of kin. Laundry will wash patient clothing when special treatment is required. Contact Laundry Supervisor to discuss.	Double bag in patient clothing bag. (<u>VHF</u> - see section 29.16)
Sigmoidoscope		
Instrument	Wash in detergent. Clean leads with alcohol wipe. Send metal parts to CSD for autoclaving.	Never reprocess disposable sigmoidoscopes.
Sphygmomanometer		
Instrument.	Damp dust with detergent solution.	Additional precautions: wipe with alcohol wipe

ITEM	STANDARD	
Cuff	<u>Linen</u> : to laundry weekly and terminal. <u>Nylon</u> : Alcohols wipe and allow to dry or wash via laundry. <u>Neonatal</u> : disposable.	Additional precautions: Provide separate cuff and sphygmometer for infected patients. Terminal clean/change before returning to general use.
Bladder	Wipe with detergent. Re-fit clean cuff.	Additional precautions: Wipe over with alcohol wipe.
Splints Thomas®.	Wash in detergent.	Additional precautions: Wash in polyphenolic disinfectant.
IV Splint (plastic)	Wash in detergent solution.	Additional precautions: Wash in polyphenolic disinfectant. Do not send to CSD.
Stethoscope Earpieces.	Clean with alcohol wipe. Clean well before use. Wash in detergent solution. Soak in hibitane tincture (70% Alcohol) 30 minutes. Store dry.	
Syringes Glass. Plastic.	Wash in detergent solution. Autoclave in CSD Discard syringe and needle unit into sharps container. Leave needle on syringe if possible.	Alert: do not fill sharps containers more than 3/4 full.
Thermometers - all types Axillary	After each use, wipe thoroughly with alcohol impregnated disposable swab.	
Oral	One patient only for duration of stay. Before use on the following patient it is to be cleaned with warm water and detergent, then disinfected with alcohol wipe. Not to be soaked.	Use disposable covers
Rectal	Cleaned with warm water and detergent. Soak in hibitane 70% alcohol for 30 minutes	Use disposable covers
Toys Plastic/wood. Other items (including books).	Wash with detergent then wipe over with alcohol wipes. Discard or send home with child.	Discard if damaged surface. Discard if necessary.
Soft toys.	Discard or send home with child.	Discard if necessary.

ITEM	STANDARD	
Trolleys Clinical trolleys for dressings and similar use Patient Trolleys	Wash with detergent and water and dry. Wipe over with alcohol wipe. Wash as above. Take care to clean well underneath section of trolley.	Alert: Report damaged mattresses and pillows to CNM. These need to be replaced ASAP
Urinary drainage bags Individually packed (Use for IDC drainage) When IDC discontinued:	Disposable unit. Wash hands, wear gloves and safety glasses. Use surgically clean jug from CSD pack to empty bag. Discard contents into flusher/sanitiser. Do not use same jug to empty other urinary catheter bags. Wash plastic jug and place in CSD trolley. Empty bag in normal manner and discard catheter and bag into a clinical waste bag.	
Bulk packed (Naso-gastric drainage or similar)	Disposable unit. Change as required.	
Underwater seal drain equipment Disposable	Discard into yellow clinical waste bag.	
Ventilation equipment - adult – <i>Refer all inquiries to Anaesthetic Technicians.</i> Anaesthetic Equipment Decontaminators are used to process equipment that cannot be sterilised by steam under pressure and non-disposable respiratory support equipment. Decontaminators are located in the CSD and the 7 th floor. When sending items to either CSD or the Anaesthetic Technicians, place it in a clear plastic bag, and label with date, ward name, and if known to be contaminated by TB.		
<u>Bird ventilator</u> (Physiotherapy).	Use bacterial-viral filters as advised by A/techs. Damp dust machine with detergent.	Additional precautions: Use disposable unit for infectious patients. Available via Sores
<u>Bird circuits.</u> Nebulisers, masks, connectors.	Wash in detergent, shake, dry, wrap individually then label and deliver to A/Tech room (sink area) 7th floor. Decontamination in washing machine.	State if TB exposure. (Longer heat decontamination cycle required).

ITEM	STANDARD	
<u>Bennett (ICU)</u>		
Ventilator	Return to Anaesthetic Technician	
Circuits (Including attachments).	Single use discard at end of patient use or after 7 days. Filter changed daily and discarded.	Discard after single patient use
<u>Newport Breeze ICU ventilator (For paediatric and adult use).</u>		
Nitric oxide accessories and monitor.	Discard disposable monitor lines and bacterial filter on printrnox analyser, wipe analyser over with alcohol-impregnated wipes. Wash all other circuitry in anaesthetic decontaminator.	Additional precautions: Dispose of all fittings. Alert: Discuss with Anaesthetic / Respiratory Technicians if unsure how to process equipment.
Paediatric circuits.	Wash circuits in anaesthetic equipment decontaminator.	When used with <i>Fisher & Paykel</i> closed water-filling humidifier, change circuits every 7 days.
F&P temperature probe.	Soak in 70% alcohol for 30 minutes. (Anaesthetic tech).	
Ultrasonic nebulisers	Rinsed between patient use and sent to CSD for autoclaving.	
Bacterial-Viral heat/moisture exchange filter.	Disposable.	Change @ 24 hours in ICU and between each case in theatre.
<u>Drager C.P.A.P. system.</u>		
Tubing	Disposable.	
PEEP valve and Y Piece.	Anaesthetic equipment decontaminator.	
Face Mask.	Anaesthetic equipment decontaminator.	
<u>Boyles machine</u> [OT]	Cleaning of Boyles machine is the responsibility of nursing staff. Clean machine daily after use with alcohol wipes.	Anaesthetic Tech service 3 monthly and check Boyles machine weekly and as requested.
Alert: Blood, sputum etc to be cleaned off immediately with detergent solution		
Adult Circuits, connectors and mono-metal items (<i>Boyles & Baines</i>)	Disposable. Change disposable bacterial-viral filters between patients. Circuits changed weekly, and after blood contamination.	Non-disposable: Anaesthetic equipment washing machine prior to autoclaving for TB cases.
Paediatric circuits (Operating theatres)	Non-disposable: Wash circuits in decontaminator after each use. HME viral bacterial filters.	Soak probe in 70% alcohol for thirty minutes.

ITEM	STANDARD
Ventilator humidifiers <u>Fisher Paykel humidifier</u> Circuit	Disposable unit - Single patient use Change every 7 days when used with a closed water filling system, otherwise at third day. Anaesthetic washing machine. Dispose of circuit Soak temperature probe only.
Ventilators - paediatric <u>Sechrist paediatric vent.</u> Circuits <u>Fisher Paykel</u> Humidifier Temp sensor	Disposable. Discard after use. Disposable humidifier. Change every 7 days when used with a closed water system. Anaesthetic Techs are looking to introduce double heated humidifier. For both inspiratory and expiratory. Soak in alcohol 70% for 30 minutes.
<u>Drager ventilator</u> Circuits. Alert: Change baby circuit every 7 days Expiratory valve assembly Flow Sensor. Drager Babylog 8000 ventilator Sensor-medics 3100A high frequency oscillator.	Change circuit and closed F&P water-filling humidity system. Circuits washed in anaesthetic equipment decontaminator. Autoclaved in CSD. Soak in 70% alcohol for 30 mins. Discard F&P chamber and closed water system. Wash circuit in anaesthetic decontaminator. Soak F&P temperature probe and flow-sensor after rinsing, in 70% alcohol for 30 minutes. Send expiratory block to CSD for autoclaving. Single use dispose after use. Change after seven days. Soak temp probe in 70% alcohol. Refer problems to Anaesthetic Technicians. Single use dispose after use.
Respiratory laboratory Circuits and components	Single use
Ventolin equipment nebuliser and spacers.	Disposable individual use only. Replace when dirty (Do not wash).

ITEM	STANDARD	
Wheelchairs/patient trolleys/ weigh chairs	Wash weekly and as necessary to keep clean. Wipe trolley mattress with detergent after each use, before making up with clean linen. Patient Care Assistant.	Alert: do not use patient trolleys with damaged mattress covers. These must be replaced urgently. Report damage to CNM.
Ultrasound transducers. Semi-critical sites i.e. transvaginal, broken skin, wounds	Probe is soaked in Cidex OPA for 20 minutes. For semi-critical sites a disposable sterile plastic cover is used as well as high level disinfection	
X-Ray machines	Damp dust with detergent. (X-Ray Technicians).	Additional precautions: Damp dust with detergent. Then apply Poly-phenolic disinfectant. (X-Ray Technicians).

Adapted from 2001RDH Infection Control Standards

10.3 Reprocessing of single use instruments and equipment

Policy statement	Single use instruments will be used as designed and not be reprocessed in accordance with Australian Standards.
Objectives	Hospital acquired infection rate will be within limits set by the Infection Control Committee.
Definitions	<p>Single use instruments</p> <p>Single use sterile instruments and equipment should be used wherever the clinical situation dictates such practice. The following are examples of single use instruments and procedures for their use.</p> <ul style="list-style-type: none"> Injecting apparatus (including syringes, needles, IV lines and giving sets) must be single use only and sterile. A new IV cannula for each attempt at IV cannulation. New IV line when connecting to a resited cannula or if the integrity of the line is compromised, i.e., disconnection. Dressings, suture materials, suture needles, scalpels, intracranial electrodes, pins or needles used for neurological sensory testing, spatulas and razors, including disposable razor blades on electric clippers, may be used for one patient and once only. Any single use article or instrument that has penetrated the skin, mucous membrane or other tissue must be discarded immediately after use or at the end of the procedure. <p>Single use implantable items reprocessing</p> <p>Some single-use implantable items may have specific approval for reprocessing from the Therapeutic Goods Administration (TGA), as part of the device registration process, if they are opened but not used (i.e., have had no contact with tissue). In these instances, the manufacturer must provide appropriate instructions for reprocessing the devices, and these instructions must be followed explicitly.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004</small></p>
Scope and application	All HCWs and any person who uses a single use item as well as those are involved in the reprocessing of instruments.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> Australian and New Zealand Standards AS/NZS 4815 Therapeutic Goods Administration <i>Statement by the TGA on Regulations for Sterilisation of Single Use Devices</i> 21st July 2003. National Coordinating Committee on Therapeutic Goods (NCCTG) <i>Reducing Public Health Risks Associated with Reusable Medical Devices</i>, 2004

Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure correct management of single use items is being undertaken. • Infection Control reviews the effectiveness of reprocessing through outbreak monitoring and implements a response when required. • Each ward and unit is responsible for initial education. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
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10.4 Reprocessing/Disinfection

Policy statement	Disinfectants and sterilants will be used in accordance with the Therapeutic Goods Administration (TGA) order and Australian Standards.
Objectives	Nosocomial rate will be within ACHS thresholds. Disinfectants and sterilants will be used appropriately and safely.
Definitions	<p>Disinfection is the process that inactivates non-sporing infectious agents, using either thermal or chemical means. Thermal disinfection can be achieved in an automated thermal washer-disinfector. Chemical disinfection can be achieved with a compatible TGA-registered instrument grade disinfectant.</p> <p>High level disinfection:</p> <p>Is the minimum treatment required for reprocessing instruments and devices for use in semi-critical sites (contact with intact non-sterile mucosa or non-intact skin) that cannot be sterilised.</p> <p>Intermediate level disinfection:</p> <p>Is the minimum treatment required for reprocessing instruments and devices for use in non-critical sites, (contact with intact skin) or when there are specific concerns.</p> <p>Low level disinfection:</p> <p>Is the alternative to cleaning alone when reprocessing devices for use in non-critical sites and when only vegetative bactericidal action is needed.</p> <p>Disinfection is not a sterilising process and is not to be carried out as a convenient substitute to sterilisation in semi-critical sites. Sterilised instruments/equipment or single use items should be used in preference to using thermal or chemically treated equipment.</p> <p>Thermal disinfection</p> <p>Items that can withstand heat and moisture and do not require sterilisation then thermal disinfection, pasteurisation, using heat and water at temperatures and times that destroy pathogenic, vegetative agents is the method of disinfection to be used.</p> <p>Chemical disinfectants and sterility</p> <p>Chemical substances may be formulated for the use on inanimate surfaces (i.e. surface disinfectants) or for the use on skin, refer to antiseptics in section 12.</p> <p>Disinfectants and sterilants intended for use are regulated by the TGA and fall loosely into the following categories:</p> <ul style="list-style-type: none"> • Sterilants • Instrument grade disinfectants (3 sub classes) <ul style="list-style-type: none"> ○ Low grade ○ Intermediate grade ○ High-level grade • Hospital grade disinfectants <ul style="list-style-type: none"> ○ Dirty conditions ○ Clean conditions • Household/Commercial grade disinfectants

	<p>Disinfectants and sterilants are used in accordance with the manufacturers directions and the TGA. Critical factors that affect performance of disinfectants or sterilants include:</p> <ul style="list-style-type: none"> • Temperature • Contact time • pH • Presence of residual organic and inorganic material • Numbers and resistance of the initial bioburden on a surface <p>Disinfectants to be used effectively:</p> <ul style="list-style-type: none"> • Must be diluted by <u>adding</u> correct amount of disinfectant to pre-measured volume of water • Must never be decanted, mixed with other disinfectants/detergents or be dispensed through pumps previously used for another product. Re-cap bottles immediately after use. • Must never used for routine cleaning <p>Sterilising services</p> <p>For disinfectant and sterilant use and procedural information in sterilising services refer to sterilising services procedure and policy manual.</p> <p>CJD</p> <p>Refer to CJD policy, section 30.9</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>
Scope and application	All HCWs and any person who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased nosocomial rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Therapeutic Goods Order No 54 <i>Standard for disinfectants and sterilants</i> • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • Sterilising Services <i>policies and procedures</i> RDH • Australian and New Zealand Standards AS/NZS 4815, AS/NZS 4187. 2003 • National Coordinating Committee on Therapeutic Goods (NCCTG) <i>Reducing Public Health Risks Associated with Reusable Medical Devices</i>, 2004. • Therapeutic Goods Administration <i>Statement by the TGA on Regulations for Sterilisation of Single Use Devices</i> 21st July 2003.

Compliance and responsibilities

- The managers of each unit have a responsibility to ensure adequate reprocessing procedures are being undertaken.
- Infection Control reviews the effectiveness of reprocessing through surveillance and outbreak monitoring and implements a response when required.
- Each ward and unit is responsible for initial reprocessing education. Ongoing education is also provided in response to problems being identified.
- Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
- Sterilisation Services run an orientation programme for new staff including education on reprocessing of instruments and equipment.

10.5 Sterilisation

Policy statement	Sterilisation will comply with Australian Standards and the Sterilising Services policy and Procedure manual
Objectives	Hospital acquired infection will be within levels set by the RDH infection Control Committee and ACHS.
Definitions	<p>Instruments and equipment</p> <p>Will only be considered sterile if one of the following sterilisation methods is used:</p> <ul style="list-style-type: none"> • Steam under pressure (moist heat) • Dry heat • Ethylene oxide • Automated environmentally sealed low-temperature peracetic acid, hydrogen peroxide plasma and other chemical sterilants. • Irradiation <p>RDH Sterilisation Services are responsible for the provision of sterile items. For further information refer to the Sterilisation Services <i>Procedure and Policy Manual</i>.</p> <p>CJD</p> <p>Refer to CJD policy in section 30.9</p> <p>Sterile packaging</p> <p>Do not use a packaged sterile item when:</p> <ul style="list-style-type: none"> • Incorrectly wrapped • Damaged or open • Still wet after the sterilising cycle • Comes in contact with a wet surface • Placed or dropped on a dirty surface, e.g., floor or sink area • There is no indication it has been through the sterilisation process. <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>
Scope and application	All HCWs and any person who is involved with reprocessing of instruments or equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee or ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • Sterilising Services <i>policies and procedures</i> RDH • Australian Standards 4187 and AS/NZS 4815 • TGA Standards for the Operation of Sterile Supply/Services in health

	<p>Care Facilities (NCCTG 1995)</p> <ul style="list-style-type: none"> • National Coordinating Committee on Therapeutic Goods (NCCTG) Reducing Public Health Risks <i>Associated with Reusable Medical Devices</i>, 2004
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Infection Control reviews the effectiveness of reprocessing through surveillance and outbreak monitoring and implements a response when required. • Sterilising services run an orientation programme for new staff including education on reprocessing of instruments and equipment. • Sterilising services are responsible for maintaining records that comply with quality systems management in AS4187 and AS/NZS 4815.

10.6 Reprocessing of flexible fibre optic instruments

Policy statement	Sterilisation will comply with Australian Standards and the Sterilising Services Policy and Procedure manual
Objectives	Hospital acquired infection rate will be within levels set by the RDH infection Control Committee using ACHS clinical indicators.
Definitions/ Protocol	<p>Specialised equipment, such as flexible fibre optic scopes, respiratory apparatus and diagnostic ultrasound probes may not withstand steam sterilisation, thermal disinfection or some chemical agents.</p> <p>Gastroscope reprocessing must:</p> <ul style="list-style-type: none"> • Be performed by a person conversant with the structure of the endoscope and trained in cleaning techniques • Be undertaken immediately after the endoscope is used so that secretions do not dry and harden • Follow the RDH Operating Theatre protocol/procedure on gastroscope reprocessing <p>Proof of process</p> <p>Records shall be kept and shall include:</p> <ul style="list-style-type: none"> • Every list • Order of patients on the list • Every endoscope reprocessed • Date of procedure • Patient details • Instrument details • Temperature of the Steris Machine • Immersion time in the Steris Machine <p>Signature of person who:</p> <ul style="list-style-type: none"> • Manually cleaned the instrument • Rinsed the instrument • Disinfected the instrument • Final rinsed the instrument • Tested the temperature of the Steris Machine • Timed the immersion of the instrument in Steris Machine • Connected the instrument to the automated flexible endoscope reprocessor (AFER), Steris Machine. <p>Daily (at least):</p> <ul style="list-style-type: none"> • Minimum effective concentration (MEC) of the biocide • Signature of the person who tested the biocide <p>Other:</p> <ul style="list-style-type: none"> • Batch number of biocide • Date biocide decanted into tank • Date biocide changed or topped up (to maintain volume) <p>It is recommended that one person perform the full manual cleaning of an instrument. If a change in personnel occurs then the process should be</p>

	<p>recommended to completion.</p> <p>All accessory items that have been sterilised, e.g. biopsy forceps, shall have a chemical indicator to demonstrate that they have been subjected to the sterilisation process.</p> <p>Intubating bronchoscope:</p> <ul style="list-style-type: none"> • This bronchoscope is no longer sterilised every 24 hour period • Each time it is cleaned and sterilised using the Steris system it is dried thoroughly and alcohol is passed through the channels to eliminate moisture and potential for breeding grounds. • If this bronchoscope needs to be used in an emergency situation alcohol (approx 100 mL) then sterile water is sucked through the channels prior to use. • When there is prior warning of need for the scope it is treated like all other scopes and run through a Steris cycle prior to use <p>Adapted from:</p> <ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA)/Gastroenterological Society of Australia, <i>Infection Control In Endoscopy</i> 2nd Edition 2003
Application	Staff involved with the reprocessing of flexible fibre optic equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008 • Operating Theatre <i>policies and procedures</i> RDH • Australian Standards 4187 and AS/NZS 4815 • Gastroenterological Society of Australia, <i>Infection Control In Endoscopy</i> 2nd Edition 2003
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Infection Control reviews the effectiveness of reprocessing through surveillance and outbreak monitoring and implements a response when required. • Operating Theatre run an orientation programme for new staff including education on reprocessing of instruments and equipment. • Staff involved in the reprocessing of flexible fibre optic instruments are required to be trained in the procedure • Operating Theatre is responsible for maintaining records that comply with quality systems management in AS4187 and AS/NZS 4815.

11 New equipment purchase

Policy statement	Patient care equipment and furniture will meet infection control requirements of being designed to prevent formation of microbiological reservoirs and be easy to clean, decontaminate and/or sterilise by traditional methods.
Objectives	Hospital acquired infection rate will be within thresholds set by the RDH Infection Control Committee using ACHS clinical indicators.
Definitions	<p>It is important that the Hospital Policy 3.24, Patient Care Equipment and Instruments, in the RDH Policy and Instruction Manual is followed to ensure that the equipment that is used in patient care is safe, meets Australian Standards and will pose no infection risk to patients.</p> <p>Manufactures must provide written instructions for cleaning, decontamination and/or sterilisation of their equipment. Where decontamination relies on chemical disinfectants, all specified products must have TGA approval for the described use.</p> <p>Critical-items/instruments</p> <p>Must be designed to withstand cleaning and sterilisation by steam under high pressure in high pre-vacuum autoclaves</p> <p>Semi-critical items</p> <p>Must be able to tolerate high –level disinfection, preferred method of decontamination is steam under pressure, second choice is moist wet heat (>85°C for >5–10 minutes depending on item) and for heat sensitive items by liquid chemicals used in accordance with manufacturers or industry standard guidelines</p> <p>Non-critical items</p> <p>Includes beds, bedside tables, lockers, etc. require only low level disinfection achieved by thorough cleaning using detergents. These items also need to be tolerant of environmental disinfectants (chlorine and/or phenolic) should decontamination measures be indicated.</p>
Scope and application	Any staff involved in the purchasing of patient care equipment or furniture
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> Australian and New Zealand Standards™ AS/NZS 4187. 2003 National Coordinating Committee on Therapeutic Goods (NCCTG) <i>Reducing Public Health Risks Associated with Reusable Medical Devices</i>, 2004 Therapeutic Goods Administration <i>Statement by the TGA on Regulations for Sterilisation of Single Use Devices</i> 21st July 2003. RDH Policy and Instruction Manual 3.24, Patient Care Equipment 2000.

Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure new purchases of patient care equipment are assessed and meet the above criteria before purchase. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
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12 Skin disinfectants

Policy statement	Skin disinfectants will be used as per manufacturers directions appropriately, effectively and safely.
Objectives	Hospital acquired infection rate will be within limits set by the RDH Infection Control Committee and ACHS.
Definitions	<p>An antiseptic is a substance that is recommended by its manufacturer for dermal application or application to mucous membranes to deactivate microorganisms.</p> <p>Antiseptic hand wash/scrub products are formulated to reduce transient bacteria on hands. Refer to Hand Washing in section 3.</p> <p>Skin preparation</p> <ul style="list-style-type: none"> • All antiseptic containers should be dated when opened (single use containers should be discarded after use) • Aqueous antiseptic solutions should be discarded after one week. (Chlorhexidine/cetrimide is to be discarded at the end of 24hours) <p>The preparations uses are outlined in table 10</p>
Scope and application	All HCWs and any person who is involved with patient procedures.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased hospital acquired infection rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • Australian College of Operating Room Nurses LTD (ACORN) <i>Standards, Guidelines and Policy Statements</i> May 2002
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure adequate use of antiseptics is being undertaken. • Infection Control reviews the effectiveness of asepsis through surveillance and outbreak monitoring and implements a response when required. • Infection Control and each unit are responsible for initial antiseptic education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

Table 10: Antiseptics

Antiseptics	Procedure
70-80% w/w ethanol 60-70% isopropanol (includes alcohol wipes and swabs)	Before venous blood collection or injection ^a . Should not be used before electric cautery or laser or on mucous membranes.
Chlorhexidine 0.5%-0. 1%	Use on facial skin/mucous membranes Not for use in middle ear surgery
BD Persist™ Plus with 1% Chlorhexidine in 70% alcohol.	IV cannulation ^b Intravascular device insertion Post insertion care
Chlorhexidine 4%	Pre op body wash
Chlorhexidine 0.5 to 1% in 60-70% isopropanol or ethanol	Preparation of operative sites
10% aqueous or alcoholic povidine-iodine	Preparation of operative sites
Triclosan 1%	Pre-op body wash
Chlorhexidine/cetrimide irrigation solution	Preparation for orbital area

^a Must be allowed to dry prior to procedure

^b Studies have indicated that 2% chlorhexidine is more effective than 10% povidine iodine or 70% alcohol for cutaneous disinfection before insertion of an intravascular device (CDNA)

13 Environmental cleaning

Policy statement	Cleaning of work areas will occur on a routine basis. Standard and when appropriate additional precautions will be observed during cleaning. Areas will be cleaned as defined in this document.
Objectives	<p>Environmental cleaning will assist in the successful application of standard and additional precautions in controlling hospital-acquired infection. Staff safety will be maintained.</p> <p>The hospital-cleaning program aims to:</p> <ul style="list-style-type: none"> • Use cleaning methods that remove and not re-distribute soil and microbes, • Achieve an accepted standard of cleaning that promotes public confidence in the hospital's ability to provide good clinical treatment, • Ensure the safety of cleaning and other staff by employing standard and additional precautions to prevent occupational injuries or exposure to communicable diseases. • Structure workflow so that 15 minutes settling time is allowed between cleaning and the performance of aseptic procedures. • Use cleaning products that do not damage either the surfaces to be cleaned or the environment, and do not cause patients and staff discomfort from fumes and odours. • Dispose of waste from cleaning in accordance with RDH waste management policy.
Definitions/ Protocol	<p>Deposits of dust, soil and microbes on environmental surfaces can transmit infection. Routine cleaning and maintenance is therefore necessary to maintain a safe environment.</p> <p>Four categories of cleaning are used to encompass the entire environment. These areas are prioritised to enable areas of most need being cleaned most frequently. The CDNA Infection Control guidelines require areas mentioned in routine cleaning to be done on at least a daily basis and more frequently if required.</p> <p>Routine cleaning:</p> <p>Happens on a daily basis and involves floors, toilets, sinks, walls, washbasins, baths, shower cubicles and all fittings attached to ablution facilities.</p> <p>Terminal cleaning:</p> <p>Additional cleaning carried out by cleaning staff and Patient Care Assistants on request following an area/room being used for patient isolation. Bed screens are changed as required.</p> <p>Formal terminal cleaning:</p> <p>Means removing and changing bed screens, washing and drying bed/trolley, furniture and equipment in room, wall in contact with patient bed or trolley and all other surfaces that may have come into contact with the patient. It is not necessary to wash the ceiling or walls where direct contact/splashing has not occurred. This is required for the burns unit beds on 2A.</p> <p>High cleaning:</p> <p>Is "spring cleaning" of an area/room. This is programmed at 3 or 6 monthly intervals and includes washing walls and ceilings to remove accumulated dust. Bed screens are also changed.</p>

High dusting:

Is more frequent “spring cleaning” of critical areas such as ICU, NICU, HDU, ED, SCN, 2A Burns beds, Birthing Suite, and ISOP.

Hospital cleaning

- **‘High risk’ critical care areas** require a very high level of hygiene achieved by an ongoing cleaning process resulting in zero levels of visible dust and lint. Areas
 - Operating Theatres, Same Day procedure,
 - Intensive Care, HDU,
 - Special Care Nursery,
 - ED – resuscitation, treatment and recovery,
 - Sterile supply
 - ISOP
 - Pharmacy clean room
 - Delivery Suite
 - Burns beds 2A
- **‘Medium risk’** require a cleaning program that includes immediate clean up of spillage. Lint and dust levels should only ever reach a scanty level before re-cleaning occurs.
 - Wards RAPU, 2A, 2B, 3A, 4A, 4B, 6A, Renal, Rehab CCU, 5B, Birth Centre, Hospice.
 - Surgical Clinic within OPD
 - Hyperbaric
 - Public toilets
 - Stores-medical sundry store
 - X-ray
- **‘Low risk’** require a less rigorous level of cleaning than described above, but surfaces should never look dirty or be gritty to touch.
 - OPD
 - Self care centre
 - Pathology
 - Pharmacy
 - Occupational Therapy
 - Staff tea rooms
 - Staff toilets
 - Laundry complex
 - Building 15 Rehabilitation.
 - Other stores
- **‘No risk’**
 - Office accommodation
 - Foyers
 - Staff residential

Requirements for housekeeping personnel:

- Cloths and buckets will be used in accordance with colour coding, refer to table 13.
 - Standard precautions apply for all cleaning tasks. (Refer policy 1)
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Heavy-duty rubber gloves offer better protection than thin procedure gloves and are recommended for all cleaning duties.

- Material gowns are restricted to clinical requirements or dirty cleaning tasks. Casual wear of gowns is not permitted. A plastic apron is more suitable than a material gown for all dirty cleaning tasks.
- Project Cleaning Schedules and records for bed screen/window curtain changes and high cleaning (spring-cleaning) to be maintained.
- Wet dusting with detergent is used for all surface cleaning.
- Cleaning products must be re-capped after use and locked in cleaner's room.
- Dry dusting or use of brooms is NOT permitted within clinical areas and general corridors of the hospital.
- Bacterial filters are fitted to all vacuums, polishers and cleaners.
- Wet mop heads are washed in the hospital laundry after maximum of one day in use.
- Waste disposal methods comply with RDH waste management guidelines.
- **Blood / body fluid spills** refer to standard precautions and blood and/or body fluid spills (refer to section 14).
- Surfaces, fittings, furnishings and appliances refer to table 11.

Restriction in movement

Housekeeping staff that clean areas with a high prevalence of pathogenic organisms i.e., ISOP, ICU, Renal, 2B isolation unit and 4B will be required to be rostered appropriately. Cleaning these areas and moving to susceptible areas may increase the risk of environmental contamination. Movement is restricted as follows:

ISOP

Restricted movement to: SCN, Maternity and birthing suite

ICU

Restricted movement to: SCN, birthing suite, 3A, 2A burns beds, Operating Theatre, CSD

Renal 7A and Nightcliff

Restricted movement to: SCN, Birthing Suite, ICU, 2A burns beds, Maternity, HDU, 3A, Operating Theatre and CSD

2B isolation beds and 4B

Restricted movement to: SCN, ICU, HDU, 3A, 2A burns beds, Birthing Suite, Operating Theatre, CSD and Maternity

Cleaning compounds for environmental cleaning.

- A neutral detergent is sufficient for almost all cleaning tasks in a hospital.
- Over use of disinfectants is not encouraged, however they are useful in a few limited situations, for example blood and body fluid spills are treated with chlorine disinfectants after primary clean using detergents.

Disinfectants – use and misuse.

- Prephen® (poly-phenolic) disinfectant has limited uses. It is not suitable for use in cleaning up blood and body fluid spills, as it does not deactivate HIV, HCV and HBV.
- Poly-phenolic's is a cleaner/ disinfectant for the terminal cleaning of

	<p>patient isolation room bed, furniture, and fittings (the PCA responsibilities of terminal cleaning).</p> <ul style="list-style-type: none"> • Ward cleaning staff <u>do not use</u> Prephen. They use neutral detergent to wash walls, doors and floors of isolation and other rooms including when carrying out terminal cleaning. • Using phenolic disinfectants on floors is not an effective use of a disinfectant. Phenolic also breaks down the vinyl surface and allows stains and grime to penetrate the body of the vinyl. • For general cleaning, floors only require washing with very low dilutions of neutral detergent in hot water. This avoids a build up of detergent scum and is sufficient to remove surface grime. • Poly-phenolic disinfectants Prephen® is a detergent/disinfectant compound that is active in “dirty” conditions and does not need to be washed off before drying. In comparison, chlorine based products, such as Milton® need to be rinsed off if used on a metal surface. • Milton® on the other hand, being sodium hypochlorite is suitable for cleaning up blood/bloody spills. • Routine terminal cleaning of beds, lockers and over-ways should be done with neutral detergent and water. It is not necessary to use a disinfectant for general cleaning. <p>Dangers of using cocktails of products.</p> <p>Mixing some cleaning compounds together is dangerous. i.e., mixing chlorine and ammonia compounds produces a gas that damages lung tissue if inhaled.</p> <p>Eucalyptus oil: <u>The use of eucalyptus oil is banned in Royal Darwin Hospital.</u></p> <p>Product approval:</p> <p>Neutral detergents and non-abrasive cleaning compounds are the products approved by the Infection Control Committee for general cleaning purposes. Disinfectants and other products are only used for specific purposes. Disinfectants approved for clinical purposes are not used for routine environmental cleaning.</p> <p>Cleaning compound tender selection:</p> <p>1: Disinfectants and detergents:</p> <p>Disinfectants are purchased through hospital pharmacy and their selection for use within the hospital is the responsibility of the Infection Control Committee. Pharmacy, Infection Control, and the Medical Microbiologist review tender specifications, evaluate submissions and recommend products. The Infection Control Committee ratifies decisions made on their behalf. Housekeeping staff participates with Infection Control in the selection of detergents and general cleaning products.</p> <p>2: General floor care products:</p> <p>Selecting sealer, stripper and polish for floor care is the responsibility of Housekeeping. Only products specifically formulated for the required purpose are to be used. Product incompatibilities are avoided by selecting all items from one brand. Strong smelling chemicals are not suitable for use in a hospital and this must be considered at the time of tender selection.</p> <p>Disinfectant list for environment use (refer to table 12)</p> <p>Cleaner's room</p> <p>The cleaner is responsible for cleaning the room on a daily basis. This</p>
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	<p>includes:</p> <ul style="list-style-type: none"> • Moving all items from Cleaner's Room. • Vacuuming, dust mopping and washing floor. • Wiping all shelving and fittings with cloth dampened in detergent solution; and drying surfaces. • Cleaning sluice with cleaning paste and rinsing to remove residues • Cleaning and replacing all items in Cleaner's Room, checking /reporting damage. Leaving room tidy at end of the day. <p>Terminal cleaning of normal bed units</p> <p>The cleaner cleans the bedside table and outside of locker as part of the normal cleaning routine. These items are re-cleaned by the Patient Care Assistant /Nursing Staff as part of the routine terminal cleaning of a bed unit. The ward cleaner must check that the floor area is clean and the bed screens are not marked or soiled in any way.</p>
Scope and application	Housekeeping staff or HCWs involved in environmental cleaning.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set be the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Therapeutic Goods Act No 54. <i>Standards for disinfectants and sterilants</i> 1989 • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Manager of Housekeeping and cleaning supervisors are responsible for ensuring that the day-to-day cleaning of the hospital is at the required standard. Cleaners are provided with a cleaning manual and a copy is kept in each cleaning room within the hospital. • Infection Control, Engineering and Housekeeping undertake weekly environmental inspections to identify areas not being cleaned to the above criteria.

Table 11: Surfaces, fittings, furnishings and appliances

Bed curtains	Clean, unstained. Not faded, torn or poorly hung. Move freely on tracks. Adequate length and width. Curtain rail dust free.
Beds	Head and footboards clean, free of marks and stains. Metal framework and wheels clean, free of dust and lint.
Bedside table	Clean and surface in good repair. Mechanics in correct working order. Wheels clean, free of lint and moving smoothly.
Benches / Desks	Clean and uncluttered. In good condition.
Ceilings	Clean, free of dust and spots, paint intact, vents clean and free of dust and lint. Light covers clean and in place. All ceiling tiles in place.
Chairs	Clean and unstained. Fabric and other surfaces undamaged.

Table 11: Surfaces, fittings, furnishings and appliances (continued)

Doors	Clean. Free of marks. Surface intact. Kick plate clean, shiny and undamaged. Top of door free of dust and lint. Handle clean. Door vent free of dust and lint on both sides. Door hinges and hardware in good working order.
Drapes, Holland blinds	Clean, dust and cobweb free. Properly hung. Not faded or discoloured. Free of tears and stains. Fittings in correct working order. Drapes move freely on tracks. Blinds in correct working order.
Floors	Clean. Free from dust, lint, stains, spills and litter. No polish build-up or accumulation of soil in corners. No heel or scuff marks. Ward and clinical areas are to be cleaned on at least a daily basis.
Locker	Clean inside and out. Surfaces intact. Doors and drawers working correctly. Wheels clean and free of lint. No evidence of rust.
Microwave ovens	Clean inside and out. Check working properly.
Pan Flusher / sanitiser	Clean inside and out. Check unit working correctly. (8 to 10 second cold water flush; followed by hot water and steam injection at 85 degrees C for holding time of 5 minutes *). *Time / temperature ratio required to kill heat resistant <i>Enterococcus</i> .
Drains	Soda Ash under instruction of Infection Control.
Refrigerators	Outside: clean, dust free and surface undamaged. No build-up of dirt evident behind unit. Inside of unit clean. Not in need of defrosting. Food stored correctly and not obviously spoilt.
Rubbish bins garbage stand	Clean. Paint / surface intact. Wheels clean and free of lint. Mechanics working correctly. Unit fitted with correct bag or liner.
Showers	Ceiling, walls, floor and door are clean, undamaged and not mouldy. Thermostatically controlled water supply not hot enough to cause discomfort during prolonged immersion. Ward and clinical areas are to be cleaned on at least a daily basis.
Sinks, baths, hand basins	Clean inside and outside. Free of spots streaks and stains. Plumbing fixtures clean, free of build-up and working correctly. Hand towel in dispenser. Automatic hand dryers (ground floor public toilets) in correct working order. Ward and clinical areas are to be cleaned on at least a daily basis.
Skirtings	Clean. No splash or mop marks. Intact and firmly fixed.
Telephones	Clean and unbroken.

Table 11: Surfaces, fittings, furnishings and appliances (continued)

Toilets	Toilet bowl clean inside and outside. No stains, streaks or residue. Toilet seat clean, undamaged and firmly fixed to toilet. Plumbing fixtures clean and working correctly. Floor, door and walls clean and undamaged. Door closes and locks properly. Toilet paper provided. Ward and clinical areas are to be cleaned on at least a daily basis.
Walls	Clean, no lint, dust or cobwebs. Paint/surface intact. Free of finger marks and stains.
Washing machine & dryers	Clean inside and out. Filters clean and free of lint. Laundry equipment in good working order.
Windows	Clean and clear. Not in immediate need of washing. Glazing intact. Frame, sill and surfaces in good repair. No evidence of leaks.

Table 12: Disinfectants used for environmental cleaning






<u>Phenolic</u>	Phenolic disinfectant concentrate dispensed in 50mL tube. Used for cleaning in high-risk areas and equipment decontamination. Dilute 1:50 in dirty conditions or 1:100 in clean conditions. Phenolic disinfectant is not to be used as a substitute for neutral detergent. <i>Brand name example: Prephen.</i>
<u>Chlorine</u>	Chlorine based disinfectant used for cleaning up blood/body fluid spillage. Remove bulk of "spill" using mop or paper towel. Wash area well with chlorine solution and leave to air dry. This should give a "contact time" of 20 to 30 minutes. <i>Brand name example: Milton - Use 1 part Milton: 1 part water.</i>
<u>Chlorine paste</u>	Chlorine based cream cleanser used for hand basins, baths, sinks, toilets, etc. <i>Brand name example: Bravo®, Ajax®.</i>
<u>Washing soda</u>	Used to remove soap and body fat build-up from drains of basins, sinks, showers, baths etc. On request.

Table 13: Colour coding







COLOUR CODED SYSTEM CLEANING SERVICES

• CLOTHS

-  **GREEN** - For food preparation areas
-  **RED** - For toilet stand (rim, seat and lid), urinals inside of flushing sinks and sluices
-  **WHITE** - For general sinks and hand basins, showers/baths and dirty utility rooms
-  **BLUE** - For general ward and theatre cleaning
-  **YELLOW** - For infections and isolation areas, excluding the toilet stand in ensuite which is cleaned with a **red** cloth

• BUCKETS (MOP BUCKETS AND GENERAL PURPOSE BUCKETS)

-  **GREEN** - For food preparation areas
-  **RED** - For toilet and shower areas
-  **BLUE** - For ICU, theatre and general ward areas
-  **YELLOW** - For infections and isolation areas

Developed by Housekeeping Services and Infection Control February 2003

13.1 Environmental cleaning/additional precautions

Policy statement	Cleaning of work areas will occur on a routine basis. Standard and when required additional precautions will be during cleaning. Areas will be cleaned as defined in this document.
Objectives	Environmental cleaning will assist in the successful application of standard and additional precautions in controlling hospital-acquired infection. Staff safety will be maintained.
Definitions	<p>Isolation room cleaning</p> <p>Isolation of a patient is designed to prevent the spread of an infection from or to patients, staff and visitors. Four categories of isolation based on how diseases are spread are used within Royal Darwin Hospital. (Refer to section 1 2 for more details)</p> <ul style="list-style-type: none"> • Airborne precautions (green card) Room must be at negative pressure to the surrounding corridors and rooms. All staff entering room must wear a Respiratory mask¹ and the door of room must be kept closed. • Droplet precautions (blue card) Negative pressure room not required. Staff must wear a surgical mask when working within 1 metre of patient (in shared room) or on entering single patient room. • Contact precautions (orange card) Patients may be in a single room or cohorted by disease type. This category of isolation is most commonly used for patients with infections caused by antimicrobial-resistant bacteria. • Skin precautions (yellow card). Single room / no shared facilities. Room must be sprayed with a surface insecticide spray as part of cleaning routine. Skin scales to be picked up using special equipment. <p>Protective isolation rooms are to be cleaned the same as general areas and are required to be done prior to any rooms requiring additional precautions.</p> <p>SARS, VRE and VHF requires extra precautions and cleaning measures. Ring infection Control on 28045 for information.</p> <p>Cleaner's responsibilities:</p> <p>Cleaners are required to carry out their normal cleaning duties within patient isolation rooms unless otherwise advised by senior medical and nursing personnel. Cleaners are not at risk of transferring infections to other patients (or themselves) if they wear the protective clothing as stated on the Additional Precautions card displayed on the patient's door and carry out their duties using the following guidelines.</p> <p>Work flow:</p> <p>Cleaning should be done from clean to dirty. Areas with additional precautions should be performed last.</p> <p>Equipment:</p> <ul style="list-style-type: none"> • If cleaning a room with an orange, yellow, green or blue card displayed obtain "Biohazard" mop and bucket (yellow), toilet brush, extra plastic buckets and disposable gloves from Supervisor. • Use disposable cleaning cloths and discard into garbage bag after use. • Detachable mop heads are to be removed and placed into red plastic bag, placed in linen mop bag and sent to the laundry at the end of the

shift.

Isolation cleaning equipment refer to table 14.

Daily cleaning in isolation room:

- Prepare detergent solution in cleaning bucket (for wet dusting) and in mop bucket for floor cleaning.
- Obtain cleaning cloths.
- Transfer equipment to isolation area.
- Leave buckets outside of room. (Or immediately inside door for rooms being used for airborne precautions so that door of the room can be kept closed).
- Don protective disposable gloves, gown and mask - as per instruction on additional precaution card. Shoe covers are also used when patients are skin shedders.
- Clean area in normal manner working from equipment placed at doorway.
- Use non-abrasive cleaning paste to clean toilet, shower and hand-basin.
- Remove rubbish from room in general waste garbage bag unless specifically stated to use yellow clinical waste bag. Double bagging is only required for quarantine diseases.
- At completion of cleaning duties, place mop into mop bucket, toilet brush into plastic bucket, discard cleaning cloths into garbage.
- Remove gloves then remove gown and perform hand hygiene.
- Don another pair of disposable gloves and transfer all equipment to cleaner's room.
- Place detachable wet mop head into red plastic bag - tie top. Send to Laundry with other mop heads at end of working day.
- Mop heads from rooms used for quarantine diseases (on advice from Infection Control staff) are to be sealed in a yellow clinical waste bag and incinerated.
- Wash all equipment in disinfectant solution.
- Dry all equipment.
- Remove disposable gloves and place in garbage.
- Wash hands.

Terminal cleaning of isolation rooms – infections and infestations:

General ward staff must notify the area cleaning manager when terminal cleaning of an isolation room is required. Make sure the additional precautions card is left on door so that the cleaners are aware of the precautions they need to take while cleaning the room. Terminal cleaning is required after each patient discharged from Intensive Care Unit.

Nursing staff or Patient Care Assistants are to remove all bed linen and medical equipment from the room before contacting cleaning staff. Walls, fixtures, fittings, ledges and general furnishings are to be cleaned by cleaning staff before bed unit is cleaned and reset for next patient by PCAs or nursing personnel.

Cleaning method:

- Prepare required equipment as per daily cleaning.
- Don protective disposable gloves, gown and mask. (If indicated).
- Remove bed screens (and window curtains, if requested) and place in a material linen bag.

- Wash walls and fixtures. It is not necessary to wash the walls above height reached by hand or the ceilings unless requested for dust control. (i.e., high cleaning may be indicated if patient has been in the room for a long time and surface dust is evident).
- Mop floor.
- Remove protective gloves then gown.
- Wash hands.
- Don new protective gloves.
- Remove linen bag containing curtains and garbage bags to soiled core area (staple top of waste bags).
- Remove cleaning equipment to cleaner's room and clean as per daily cleaning.
- Remove protective gloves.
- Wash hands.
- Replace bed screens.

Emergency department and OPD - terminal cleaning guide for infectious diseases

Some infections which require formal isolation at ward level can be managed in the Emergency Department / OPD Clinic by:

- Using standard precautions;
- Maintaining concurrent disinfection of used equipment;
- Ensuring sanitary disposal of body waste;
- Immediate clean-up of spills; and
- Ensuring full linen change on conclusion of patient episode.

Examples of these infections are:

- Abscesses/wound infections/skin sepsis not contained by dressings.
- Bronchiolitis/RSV (infants & children).
- Gastroenteritis / diarrhoea.
- Respiratory tract infections with a moist, productive cough.
- Viral / bacterial conjunctivitis.

Formal terminal decontamination is required for:

- Bacterial Infections caused by multi-resistant bacteria (NORSA, MORSA, ESBL, VRE).
- Bacterial meningitis (meningococcus *Hæmophilus influenzae*).
- Diphtheria - pharyngeal.
- Haemorrhagic fever (Lassa, Ebola, Marburg)
- Measles.
- Mumps.
- Pertussis.
- Pneumonic plague.
- Rubella.
- SARS refer to section 29.15
- Scabies (Crusted only)
- Scarlet fever (infants & children).

	<ul style="list-style-type: none"> • Severe infestations (crusted scabies). • Tuberculosis - pulmonary, laryngeal. • Varicella (chickenpox). • Zoster in disseminated or immunocompromised patients. <p>Formal terminal cleaning</p> <p>Means removing and changing bed screens, washing and drying bed/trolley, furniture and equipment in room, wall in contact with patient bed or trolley and all other surfaces that may have come into contact with the infected patient. It is not necessary to wash the ceiling or walls where direct contact/splashing has not occurred. This is required for the burns unit beds on 2A.</p>
Scope	Housekeeping staff and HCWs involved with cleaning.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Housekeeper and cleaning supervisors are responsible for ensuring that the day-to-day cleaning of the hospital is at the required standard. Cleaners are provided with a cleaning manual and a copy is kept in each cleaning room within the hospital. • Infection Control, Engineering and Housekeeping undertake weekly environmental inspections to identify areas not being cleaned to the above criteria.

¹ Respirator style mask protects the wearer from inhaling airborne microorganisms. Surgical masks protect others from the microbes exhaled by the person wearing the surgical mask.

Table 14: Isolation cleaning equipment

Requirements	Comments / instructions.
Yellow mop bucket	<ul style="list-style-type: none"> • Yellow bucket is kept for cleaning in isolation rooms.
Mop with disposable mop head	<ul style="list-style-type: none"> • Normal ward handle is cleaned after use.
Rubber Mazlin tool (sweeper)	<ul style="list-style-type: none"> • The rubber tool sweeps up skin without spreading mites.
Isowipes used with crusted scabies.	<ul style="list-style-type: none"> • Use to damp dust room furniture and fittings when no spillages of food have occurred.
Toilet cleaning requirements	<ul style="list-style-type: none"> • Brush and preferred toilet cleaner. Red Chux

Table 14: Isolation cleaning equipment (continued)

Yellow and red Chux	<ul style="list-style-type: none"> • Use yellow Chux to clean up spills on locker or bedside table. • Use red Chux for toilet/ shower cleaning of fixtures, fittings and wall tiles.
Wet sign	<ul style="list-style-type: none"> • Display signs to warn other staff that cleaning is in progress.
Red laundry bags	<ul style="list-style-type: none"> • For bed linen, mop head etc.
Waste bags: black Yellow	<ul style="list-style-type: none"> • General waste from room. • Heavily blood stained materials or vessels containing body waste.

13.2 Environmental cleaning/skin precautions

Policy statement	Cleaning of work areas will occur on a routine basis. Standard and when required additional precautions will be during cleaning. Areas will be cleaned as defined in this document.
Objectives	Environmental cleaning will assist in the successful application of standard and additional precautions in controlling hospital-acquired infection. Staff safety will be maintained.
Definitions	<p>Cleaning the room of a patient with Crusted Scabies:</p> <p>Considerable care is needed to prevent hospital acquired/occupational infestations from patients with crusted scabies. Good cleaning and environmental control is essential in preventing cross-infestations. The patient environment is managed in cooperation between nursing, patient care assistants and cleaning staff. The level of infestation may vary and this governs the amount of personal protective clothing required to prevent staff infestations.</p> <p>Category of Isolation for Crusted Scabies:</p> <p>Patients with this condition are nursed in Skin Contact Precautions Isolation (yellow card). This category of patient isolation requires a single room with own ensuite.</p> <p>Protective attire:</p> <p>Initially, when the patient's infestation is heaviest, it is necessary to wear full protective clothing to enter the patient's room. Refer to Skin precautions in (section 2.4) for protective requirements</p> <p>Cleaning guide:</p> <ul style="list-style-type: none"> • Arrange with nurse caring for the patient to let you know when the room will require cleaning. The best time to clean the patient's room is when he/she is in the shower or the ward bathroom being treated. • Gather all of the required cleaning equipment. <p>Cleaning steps:</p> <ul style="list-style-type: none"> • Move equipment to doorway of room. • Put on protective clothing as stated on the additional precautions card on door. • Sweep and mop floor to bathroom doorway, while nurse strips, cleans and re-makes patients bed. • Use Isowipes™ to damp dust window / ledges, locker top, bedside table, basin and furniture and fittings. • Spray room furniture and surfaces with pyrethrin insect surface spray (i.e., Raid red can is a surface spray with residual effect. Raid white can is a "knockdown" spray with only a short-term residual effect if used as a surface spray, but is low irritant). i.e., chairs, bedside rails, wheels and underneath and around bed area and other areas where skin scales were heaviest. • Hose down shower walls and wipe dry using red cloth. • Clean hand basin with preferred cleaning product. • Clean toilet. Brush toilet bowl and wipe over seat and rim. Discard red cloth. • Mop bathroom floor with detergent solution.

	<ul style="list-style-type: none"> • Spray bathroom surfaces with pyrethrin insect surface spray • Complete mopping to doorway of room. • Remove shoe covers with gloved hands. • Remove gloves and discard. • Remove gown and scrub pants. • Wash hands at nearest external hand basin. • Put on clean gloves and remove cleaning equipment to the cleaner's room to wash and dry. • Remove mop head and place into red plastic bag after use, then into a linen bag and leave in soiled core area for collection by Laundry Service.
Scope and application	Housekeeping staff and HCWs involved with cleaning an environment that requires or had required skin precautions.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Manager of Housekeeping and cleaning supervisors are responsible for ensuring that the day-to-day cleaning of the hospital is at the required standard. Cleaners are provided with a cleaning manual and a copy is kept in each cleaning room within the hospital. • Infection Control, Engineering and Housekeeping undertake weekly environmental inspections to identify areas not being cleaned to the above criteria.

14 Cleaning of blood and body fluid spills

Policy statement	Blood and body fluid spills will be dealt with immediately or as soon as it is safe to do so. Standard precautions will be used.
Objectives	Reduce the risk of exposure to potential blood borne disease and other pathogenic organisms for both the HCW and patients.
Definitions	<p>Use standard precautions (gloves, protective eye-wear etc). It is everyone's responsibility to clean up blood / body spills.</p> <ul style="list-style-type: none"> The initial clean up of the spill (e.g., blood, urine or faeces on the floor) is to be done by the staff member who comes across the spill (Nursing/PCA/Cleaner etc.) using paper towels to mop up the spill and discard the paper towel into a yellow clinical waste bag. After the initial clean up, the Cleaning staff (during working hours) or Nursing / PCA staff (after hours) is to clean the area with warm water and detergent using protective equipment outlined in section 8. For blood spills only after following the above steps mop the surface with a solution of 0.5% chlorine (Milton diluted 1:1, i.e., 1 part Milton to 1 part water). Use the yellow (infectious) mop bucket or yellow cleaning cloth to clean up spill. Place mop head in a red plastic laundry bag after use or dispose of yellow cleaning cloths into a yellow medical waste bag. Wash the mop bucket out after use. Spills of CNS tissue or CSF from patients at risk of having CJD, refer to CJD section 30.9 should be absorbed onto paper towels and disposed of by placing into a yellow plastic bag and taken to incineration bin (non-autoclavable, yellow bin with orange top) situated outside of the mortuary. The surface should then be soaked in 2.0%–2.5% sodium hypochlorite, left for one hour and cleaned again with paper towels that are disposed of by the same method. Spills of laboratory cultures of human pathogens. (Refer to AS/NZS 2243.3) The extent and risk of the spill determines the management. Evacuation is usually required; all staff working in the laboratories should be familiar with the Australian Standard.
Scope and application	All HCWs and any employee who is involved with patient contact, their environment or contaminated waste/equipment.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident, increased nosocomial rate or failing to fall within ACHS thresholds.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003 AS/NZS 2243.3 Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000
Compliance and responsibilities	<ul style="list-style-type: none"> The managers of each unit have a responsibility to ensure appropriate response to blood spills is undertaken.

	<ul style="list-style-type: none"> • Infection Control is responsible for initial staff education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
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15 Management of clinical and related waste

Policy statement	Management of clinical and related waste will conform to Northern Territory, Australian and NHMRC national guidelines for waste management in a health care setting. Waste will be segregated at the point of generation and standard and/or additional precautions will be used.
Objectives	<ul style="list-style-type: none"> • Protect public health and safety • Provide a safe working environment • Minimise waste generation and environmental impacts of waste treatment/disposal • Comply with legislative requirements
Definitions	<p>Waste management strategy and plans</p> <p>The NHMRC's "National Guidelines for Waste Management in the Health Care Industry" recommends that all generators of clinical and related waste must develop and periodically review a comprehensive waste management strategy. The Waste Management Plan for the RDH will act as the Waste Management Strategy.</p> <p>RDH management plan:</p> <ul style="list-style-type: none"> • Highlights the accountabilities and responsibilities of management, staff and contractors; • Defines the various categories of the waste stream; • States that waste generation be minimised as far as possible; • Identifies all appropriate disposal procedures; • Identifies that all waste be disposed of safely; • Provides for adequate and on-going education; and • Is readily available to all workers involved. <p>As part of the plan, consideration has been given to:</p> <ul style="list-style-type: none"> • Auditing of identified waste management streams; • Follow-up monitoring of waste management streams; • Examining waste segregation procedures; • Evaluating of waste minimisation activities; • Displaying appropriate signage; • Developing contingency plans and emergency procedures, eg. Spills; • Instigating a waste tracking documentation system from waste generation to final disposal; • Instructing staff in understanding their responsibilities in waste management. <p>Categorisation of wastes</p> <p>The following are waste streams present at the RDH:</p> <ul style="list-style-type: none"> • Clinical waste; • Pharmaceutical waste • Cytotoxic waste • Chemical waste;

- Radioactive waste;
- Recyclables;
- Organic waste;
- Liquid waste; and
- General waste.

It should be noted that clinical, cytotoxic, pharmaceutical, chemical and radioactive wastes are also classified as hazardous wastes under the Dangerous Goods Act.

Clinical waste

Clinical waste is that which has the potential to cause sharps injury, infection or public offence, and includes sharps, human tissue waste, laboratory waste, animal waste resulting from medical, dental or veterinary research or treatment that has the potential to cause disease.

Clinical waste usually includes the following sub-categories:

- Discarded sharps;
- Laboratory and associated waste directly involved in specimen processing;
- Human tissues, including materials or solutions that contain free-flowing or
- Expressible blood; and
- Animal carcasses that are contaminated or suspected to be contaminated by pathogenic organisms, unless treated to standards approved by the Chief Health Officer

Pharmaceutical waste

Pharmaceutical waste, excluding cytotoxic, may arise from:

- Pharmaceuticals that have passed their recommended shelf life;
- Pharmaceuticals discarded due to off-specification batches or contaminated packaging;
- Pharmaceuticals returned by patients or discarded by the public;
- Pharmaceuticals that are no longer required by the establishment; and
- Waste generated during the manufacture and administration of pharmaceuticals.

Non-hazardous materials such as normal saline or dextrin need not be considered as pharmaceutical wastes.

Excess stock of pharmaceuticals, either current or expired, may be returned to the pharmacy for appropriate disposal or distribution. The disposal method depends on the chemical composition of the material, which can be checked with the manufacturer or the pharmacist.

Pharmaceutical waste should be placed in non-reactive containers. Wherever possible, this waste should be incinerated. It should not be sent untreated to landfill. Where incineration is not possible, advice should be sought from the Chief Health Officer.

Where practicable, non-flammable liquids (eg antimicrobial solutions) should be absorbed by surplus absorbent such as sawdust enclosed in either a wet bag or a plastic bag, and then incinerated.

Pharmaceutical waste can be disposed of as clinical waste if both pharmaceutical and clinical wastes are incinerated together. Such waste should not be discharged into sewerage systems.

Cytotoxic waste

Cytotoxic waste is material that is, or may be, contaminated with a cytotoxic drug. During the preparation, transport or administration of chemotherapy. Cytotoxic drugs are toxic compounds known to have carcinogenic, mutagenic and/or teratogenic (causing foetal and/or neonatal abnormalities) potential. Direct contact with cytotoxic may cause irritation to the skin, eyes and mucous membranes, and ulceration and necrosis of tissue.

The following general principles should be observed:

- Cytotoxic waste must be incinerated in an approved incineration facility at the recommended temperature (in the secondary burning chamber) of at least 1100°C.

Chemical Waste

Chemical wastes included in the Dangerous Goods Regulations and Poisons and Therapeutic Goods Act are also included in this stream. In an HCF, chemical waste can include for example, mercury, cyanide, azide, formalin, and glutaraldehyde, which are all subject to special disposal requirements.

Radioactive waste

Radioactive waste is material contaminated with radioactive substances that arises from medical or research use of radionuclides. It is produced, for example, during nuclear medicine, radioimmunoassay, and some bacteriological procedures. It may be in a solid liquid or gaseous form and be included in the body waste of patients under treatment. Reference should be made to the NT *Radiation (Safety Control) Act* and the *Radiation (Safety Control) Regulation*. Further advice may be sought from the DHCS' Manager of Radiation Health.

Radioactive waste, once lead shielded and allowed to decay to a safe level as set by the Chief Health Officer, is no longer deemed to be radioactive waste. Some radioactive wastes are also classified as hazardous waste in the *Waste Management and Pollution Control (Administration) Regulations*.

Recyclable products

These are items composed of materials or components that are capable of being remanufactured or reused. Items are considered recyclable only if facilities are available to collect and reprocess them.

Organic products

This category includes wood, garden waste, food, vegetable and natural fibrous material waste and biosolids, which are capable of being composted or could be used to enhance lawns or gardens. Generally, this category of waste is disposed of to landfill.

Liquid waste

In a health care facility, these wastes can include grease trap waste and used lubricating oils. They also include other wastes that are normally discharged to the sewer. It should be noted that the NT Government has recently put into place Trade waste legislation that requires licensing of the premises and prior approval of any wastes discharged into the sewer. DIPE should be contacted in this instance.

General waste

General waste as a separate category includes any waste not included above and which is not capable of being composted, recycled, reprocessed, or re-used. This stream also includes treated clinical waste, incontinence

	<p>pads, drained dialysis wastes, sanitary waste and disposable nappies. All general waste can be disposed of to landfill.</p> <p>Waste segregation</p> <p>Waste segregation is the practice of classifying waste and placing it into the appropriate waste container immediately after the waste is generated. Effective segregation will reduce costs, promote recycling, and assist to protect the health and safety of all.</p> <p><i>Importance of Waste Segregation</i></p> <p>HCWs are to segregate and colour code all waste to assist in the protection of personnel from injury and infection by preventing hazardous waste entering inappropriate waste streams.</p> <p>Correct segregation and colour coding will also ensure that materials, which are reusable or recyclable, are not discarded. Correct containment of all waste is required in order to comply with the provisions of the Waste Management Pollution Control Act. The mixing of wastes is not permitted. If mixing occurs, wastes containing hazardous waste are to be classified as “hazardous waste”.</p> <p>Waste labelling</p> <p>Bags/containers of waste must be marked to identify the HCW or Unit and date of collection.</p> <p>All RDH and waste collection contractors should adopt the following labelling practices:</p> <p><u>Clinical Waste</u> – all containers and plastic bags are to be yellow and marked with the international bio-hazard symbol in black with wording that states “Medical Waste”</p> <p><u>Cytotoxic Waste</u> – all containers and bags are to be purple and marked with the cell in telophase symbol in white, with wording that states “Cytotoxic Waste”.</p> <p><u>Radioactive Waste</u> – all containers and plastic bags are to be red and marked with the international symbol in black with wording that states “Radioactive Waste”</p> <p>General requirements regarding containers and plastic bags or bins – There should be:</p> <ul style="list-style-type: none"> • Legible symbols and words • No overfilling (2/3 full only) • A capacity indicator • A warning regarding storage in wet areas • A warning against placing hands in the container or touching waste, and • Advice that the container or bag should be securely sealed once filled to the nominated capacity. <p>The complete RDH Waste Management Plan can be referred to in appendix 2 Waste Management. It includes Unit specific collection and disposal procedures and mercury spill protocol.</p> <p>Adapted from: RDH Waste Management Plan Dec 2003 (refer to index 2)</p>
Scope and application	All HCWs and any person who is involved with disposal, handling or collection of waste.

Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA or NH&MRC's guidelines. In response to a specific incident.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>.2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • RDH Waste Management Plan Dec 2003 • NH&MRC National guidelines for Waste Management in the Health Care Industry 1999.
Compliance and responsibilities	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure correct management of clinical waste is being undertaken. • Infection Control reviews the effectiveness of waste management in consultation with all levels of waste collection, handling and disposal. • Infection Control is responsible for initial waste management education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

16 Food handling and preparation

Policy statement	Food preparation and handling will comply with national food safety standards as well as the Northern Territory Food Act
Objectives	Assuring the provision of safe food and identifying microbiological, chemical and physical hazards
Definitions/ Procedure	<p>Hospitalised patients are more susceptible to food borne infection and are more likely to suffer serious consequence than healthy members of the community. Having a centralised kitchen means that a lapse in food hygiene may cause an outbreak of food poisoning among patients and aged or debilitated people in the community who receive "Meals on Wheels".</p> <p>Good food hygiene is essential.</p> <p>The Hospital Kitchens are a restricted area. Unauthorised staff, patients and visitors are not permitted access to food processing and storage areas.</p> <p>Food services standards of practice:</p> <p><u>Catering staff personnel health and hygiene:</u></p> <ul style="list-style-type: none"> • Health assessments are required for all new employees. • Food-handlers are provided with initial orientation in personal and kitchen/ food hygiene prior to commencing duties as a food handler. The Section Manager arranges this with appropriate personnel. • The kitchens operate in accordance with the NT Food Act and Regulations 2004. On going in-service education is provided to maintain standards. • Staff do not undertake food-handling duties while suffering from open skin infections, gastro-intestinal infectious diseases and respiratory infections. Staff with infections listed must report to Catering Service Management and a medical clearance is required before they return to food handling duties. • Personal grooming shall be of an appropriately high standard. Clean uniforms required daily, fingernails clean, short and free of nail polish. Loose, dangling jewellery or rings with high settings are not worn while handling, preparing or serving food. • Hair is completely covered when personnel are working in food preparation and serving areas of the kitchen. • Staff shall maintain a high level of personal hygiene and follow strict hand washing and food handling protocols. <p>Apron and other protective clothing worn in addition to the standard uniform must be: -</p> <ul style="list-style-type: none"> • Fresh each day, • changed through out the day to maintain good hygiene, removed before visits to the toilet or when leaving kitchen area, and washed in the hospital laundry after use. • Gloves are worn when food is directly handled, and shall be changed immediately contamination occurs. • Cuts and grazes are completely covered with a detectable waterproof dressing. Gloves must be worn over any dressings on hands. • Staff are not permitted to eat or drink in food preparation/processing areas of the kitchen. Smoking is not permitted in Health Department buildings.

Kitchen environmental control:

- All food preparation benches and surrounding areas are of impermeable material and are maintained in good condition. A “clean as you work” approach is taken to maintaining clean food preparation areas.
 - All kitchen utensils and machines are kept clean and in good working condition.
 - Separate work areas and utensils are used for cooked and raw food to prevent cross infection.
 - Environmental cleaning is attended to daily and as required. Spills are cleaned up immediately. General maintenance shall be kept to a high standard.
 - Cardboard boxes and bags containing bulk foods are not brought into the main kitchen area. Items are unpacked and stored on shelves or in plastic, washable containers.
 - Storage on floors is not permitted. Overstocking is avoided.
 - Patient meal trays are processed through dishwasher after use. Thorough HOT water rinsing must follow hand washing of kitchen items, and items left to drain dry before being stored.
 - At the end of the day, kitchen is left clean, tidy and ready for use. All prepared and perishable foods are correctly stored in cold-rooms or refrigerators. Benches and floors are left clean, free of spillages and food scraps. All dishes and utensils are washed and air-dried, sinks are left empty and clean.
 - Waste food is held in covered bins and is removed from the food service area at the end of the working day and disposed of safely. Bins are left clean.
 - Cleaning equipment is well maintained and stored clean after use. Mop heads are changed daily. The tanks of electrical scrubbers are emptied and left clean and dry after use. High cleaning is carried out by the hospital cleaning service on a 3 monthly basis.
 - An ongoing, efficient pest control program is maintained to ensure food does not become contaminated. Catering staff regularly monitors and reports effectiveness. Supplementary treatments are initiated as required to effectively control pests.
 - All chemicals used are Australian Standards Association, Therapeutic Goods Association or National Health & Medical Research Council approved for use in kitchens and are stored separate from foodstuffs to prevent any possible contamination.
 - Programs for routine maintenance and equipment replacement are established and maintained to ensure optimal operational levels.
 - Preparation and handling of food is carried out in accordance with the relevant health regulations and accepted practice, and allows that: -
 - Food stocks are rotated to ensure use during safe shelf life.
 - Cooked meats served hot are not cooled and reheated. Meat held in heated serving pans is not retained and served at a later time as cold cuts.
 - Unnecessary handling of food is avoided. Utensils are used for handling whenever possible.
 - Catering staff ensures that cooking times for all cooked foods are
-

adequate to destroy potential harmful organisms and heat labile toxins.

- Food storage facilities are clean, sealed and odour free. Foods are stored at appropriate temperatures to prevent the multiplication of microorganisms. In general, hot foods are kept above 63°C and cold foods refrigerated below 5°C (*Refer to specific temperatures for cook-chill system.*)
- Refrigeration temperatures for both regular and “cook-chill” systems are regularly monitored and recorded. Written protocols are in place for the immediate reporting of faults.
- Food that has been exposed to any form of contamination (chemical, microbiological or pest) is discarded immediately.

Cook-Chill requirements:

During cooking, food reaches and retains a temperature of 70°C for 2 minutes, as an *absolute minimum*. Actual cooking time is dependent on quantity and type of food being cooked. Food is *rapid-chilled* to a temperature of less than 3°C within 90 minutes of cooking with items being placed in rapid chiller within 30 minutes of being removed from heat.

Cook-chill refrigeration temperatures are monitored and recorded twice daily and remedial action taken as required.

Food is transferred for ongoing storage at between 0°C - 3°C and held no longer than 5 days. If the refrigerator or food temperature probe records temperatures in excess of 5°C but remains less than 10°C, food must be eaten within 12 hours. If temperature exceeds 10°C, discard stored food. Labelling and dating system to be used and monitored to ensure compliance with length of storage requirements.

Samples of food from all cook-chill meals are collected, correctly labelled/dated and held frozen for 30 days. These samples are subjected to microbiological testing if subsequent problems are detected. Additional testing may be instigated by the Environmental Health Branch at 24 hours notice to the Manager of the Food Services Department. Environmental Health Officers collect the samples and arrange testing at the expense of their Department. Food Services Manager, at his discretion may also arrange additional testing.

Cook-chill refrigeration temperatures are monitored and recorded twice daily and remedial action taken as required.

Patient cook chill meals:

It is important that cook-chill food is not re-heated again at ward level as a second re-heating using the ward microwave destroys taste and texture. Ward staff need to encourage patients to be in their wards at meal times to avoid meals being replaced due to spoilage.

Catering quality assurance:

Planned and ad-hoc inspections to measure compliance with Infection Control Standards and to recommend remedial action for non-compliance are conducted by Infection Control Committee nominees.

In-built, ongoing quality assurance activities are required to monitor all critical processes.i.e., “cold-chain” survey of meat storage and handling.

Installed alarm systems are in place to identify systems failure. Hospital Switch Board ensures that designated personnel have received notification of system failures and assists with contacting mechanical or electrical contractors. Note: Alarm activates after 10 minutes at 4.5°C, allowing

	<p>sufficient time for food to be transferred to another refrigerator before spoiling has occurred.</p> <p>When faults are identified, food services personnel are responsible for determining the need to move food to another refrigerator to prevent spoilage and wastage.</p>
Scope and application	Kitchen staff and any person involved with the handling and/or the preparation of food.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Northern Territory of Australia Food Act 2004. • Australia/New Zealand Food Standards Code 2004
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Supervising personnel in the routine course of their duties conduct daily inspections of cleaning standards. Deficiencies are addressed immediately. • Section head is responsible for maintaining records of inspections detailing problems identified action taken and outcomes. • Food Services Manager performs education of kitchen staff that handle food at commencement of service.

17 Laundry services

Policy statement	Transport, storage and cleaning of linen will comply with Australian Standards. Appropriate protective equipment as per standard precautions will be worn when handling linen. Linen that is heavily soiled with body substances or fluids will be contained in an impermeable bag.
Objectives	Linen will be cleaned as per Australian Standards. Which assists in the successful application of standard and additional precautions in controlling hospital acquired infection. Exposure related incidents will be avoided.
Definitions/ Protocol	<p>To comply with Australian Standard and RDH policy the following procedures for the collection, transport, storage and cleaning of linen must be followed.</p> <p>Handling of soiled linen:</p> <ul style="list-style-type: none"> • Use standard and if required additional precautions when handling all linen. Remembering you are not the last person to handle the linen. You place fellow employees at risk of exposure related injuries if linen is not bagged appropriately, i.e., correct sharp disposal and body substance/fluid containment. • Linen that is heavily soiled with body substances or fluids will be contained in an impermeable bag (red plastic). • Linen bags should be only 3/4 filled to enable easy closing. Bags must be closed securely using the “clip lock” fitted. Do not tie knots in draw cords. • Linen should be placed directly into a linen skip at the bedside to reduce contamination of the environmental surfaces and double handling. • Follow extra requirements of additional precautions in which some linen needs to be handled with specific requirements. (Refer to Crusted Scabies, SARS, Viral Haemorrhagic Fever for further information or ring Infection Control on 28045) • Linen that is required to be lint free such as green sterile drapes need to be separated from normal linen. <p>Laundry staff health and hygiene:</p> <ul style="list-style-type: none"> • Staff must not work in the laundry with a productive cough or while suffering from open sores, boils or other skin sepsis. Staff need to maintain a high level of personal hygiene and use standard precautions applicable to their duties. • Immunisations are kept up-to-date. Tetanus, diphtheria, polio, measles, mumps, rubella and hepatitis B vaccinations are recommended. • New staff are to receive appropriate orientation in the areas of infection control, occupational health and hygiene and linen service practices. Appointments should be made through section managers. • Laundry staff use standard precautions while handling laundry for processing. This includes wearing personal protective equipment while undertaking pre-wash sorting. • To minimise the risk of cross infection hand washing facilities shall be readily available, and staff shall wear clean uniforms at the commencement of each working day.

Clean linen supply:

- Laundry manager provides all staff with written procedures for the safe handling of linen.
- Linen provided for clinical use must be freshly washed, clean, dry, undamaged, free of stains and comply with Australian Standards. (Ideally, on random direct microbiological plating, freshly washed linen should have a colony count of less than 5 cfu per 10 cm).
- Laundered items that come in contact with the floor or other contaminated surfaces are re-washed.
- Linen stocks are rotated on a first in, first out basis, and imprest records are kept.
- Theatre and CSD linen is lint free; holes and threadbare areas are repaired in line with Australian Standards, i.e., patched with heat adhering patches and not excessively patched.
- Clean linen and soiled linen is transported and stored separately.
- Linen trolley covers and trolleys are kept in good repair and working order, and washed regularly to keep dust / lint free.

Soiled linen collection and handling:

- Soiled linen is loaded from the south side of the hospital back loading dock whereas; clean linen is delivered to the clean north side and transported down Maintenance side corridor.
- Containers transporting soiled linen bags and storage areas for soiled linen are cleaned regularly. This includes the bag holding area on lower ground floor of the hospital ward block.
- Staff wear personal protective attire while sorting soiled linen. Protective equipment is changed and hands thoroughly washed when staff are required to move from a dirty task to a clean tasks.

Laundry facilities:

- The laundry is planned and equipped so as to prevent the dissemination of contaminants.
- Hospital washing machines are located in a purpose built facility, are separate from the clean linen processing area and other areas in which clean material and equipment are stored by an adequate distance to prevent direct re-contamination.
- Section manager and supervisors conduct random inspections to ensure that;
 - Work practices are conducive to infection prevention.
 - Surfaces and overhead areas in the laundry are cleaned regularly.
- Infection Control, Housekeeper and Engineering Services Quality Officer conduct environmental inspections.

Laundry process:

- Wash formulae and type of chemicals intended for processing hospital linen must be endorsed by the Infection Control Committee prior to implementation and also prior to acceptance of any associated tender offer. Formulae must be in line with Australian Standards.
 - Section manager verifies integrity of all machine programming
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	<p>associated with new wash formulae or changes to existing formulae.</p> <ul style="list-style-type: none"> Processors inspect washed items for acceptable condition, colour and stain removal. Records shall be kept showing amount of re-wash required. <p>Laundry performance thresholds</p> <ul style="list-style-type: none"> Laundry practices shall comply with Australian Standard: Laundry Practice AS/NZS 4146:2000. Linen is to be thermally disinfected in line with the provisions of section 3.5.2 of AS/NZS 4146:2000. Ideally, re-wash not to exceed 3% Linen Services provided to the facility on a contract basis, (i.e., professional dry cleaning of curtains) shall be subject to the Standards outlined in this document. Repair of theatre and CSD linen to comply with AS 3789.2–1991 <p>Critical records:</p> <p>Records are kept for each wash formula used, specifying type of linen /load, parameters of wash program - type, normal load capacity, duration, water levels, temperature, chemical types and doses.</p>
Scope and application	HCWs, Laundry staff and anyone who is involved with the collection, transportation, cleaning and handling of linen.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines or Australian Standards. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. AS/NZS 4146:2000 AS 3789.2 and AS 4187
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. Laundry practices shall comply with Australian Standard: Laundry Practice AS/NZS 4146:2000. Laundry Services, Infection Control, Housekeeper and Engineering Services Quality Officer conduct environmental inspections to ascertain compliance with policy.

18 Maintenance of RDH

Policy statement	All aspects of the physical environment will be maintained to ensure that the hospital meets current Australian Standards, codes and regulations
Objectives	Maintenance of the building and equipment will assist in the implementation of standard and additional precautions.
Definitions	<p>Maintenance requests:</p> <p>Written maintenance requests are logged into a computerised tracking system for prioritising workload and monitoring history of repairs carried out on individual items for the purpose of replacement. Works impacting on infection control are reported to Infection Control Officer for assessment.</p> <p>Equipment repairs:</p> <p>Items for repair must have all normally accessible areas thoroughly cleaned before being sent to Engineering Services. Items where blood or body fluids have seeped in to must be tagged to let Engineering Services know that internal contamination has occurred.</p> <p><u>New equipment:</u></p> <p>New patient care items must be reviewed by Engineering Services /Medical Engineering Branch, Infection Control and Occupational Health and Safety before purchase. Specifications for new purchases/capital equipment are to be accompanied by “green slips” and be signed off by the three Departments above, before proceeding to tender.</p> <p><u>Old equipment:</u></p> <p>Old instruments and medico-electrical equipment should be sent to Engineering Services with a tag saying “for disposal”. This enables Engineering Services to take re-useable parts as spares.</p> <p>Pest control:</p> <p>The Engineering Services Contracts Manager arranges pest control throughout the hospital complex with the appropriate period contractor. Ring ext. 28556 when pest control is required.</p> <p>Engineering services quality control monitoring:</p> <p>Air-conditioning and water supply microbial monitoring is arranged by this section and results are reviewed by Infection Control and the Medical Microbiologist in conjunction with Engineering Services Manager.</p> <p>Phone ext. 28556 for Engineering Services assistance.</p> <p>Scheduled Maintenance is undertaken to check on the following:</p> <ul style="list-style-type: none"> • Air exchange rate • Supply air and exhaust quantities • Terminal HEPA filters • Supply air diffuser or registers • Room pressure gages and alarms • Damage to room interiors • Supply and exhaust fans, and dampers • Room seals and door closer • Clinical hand basin and ensuite plumbing

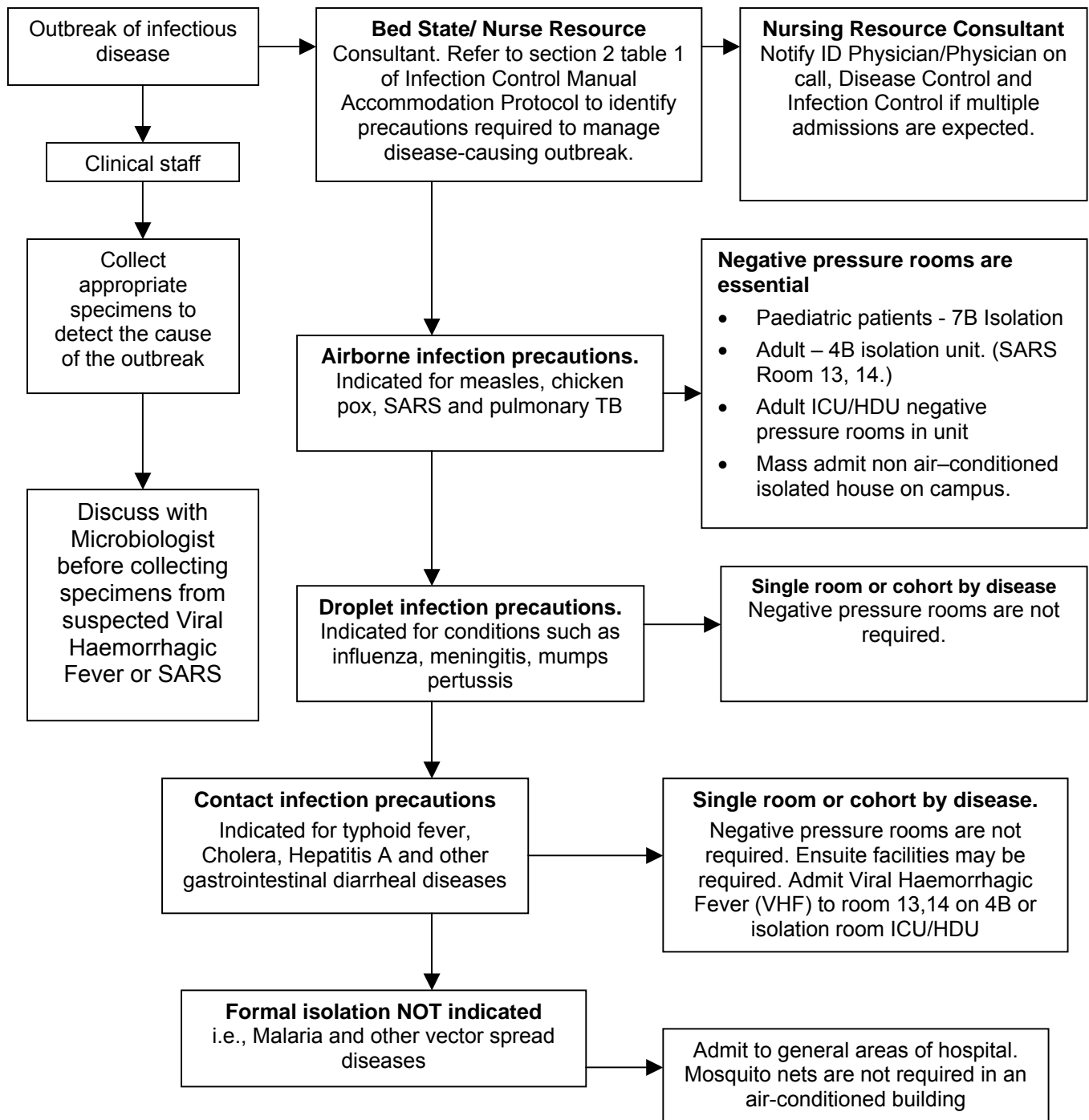
Scope and application	Notification of areas or equipment requiring maintenance applies to all employees.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in Australian Standards or CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Standards <i>Hospital acquired infections—engineering down the risk</i> HB 260, 2003 • AS/NZS 4187, 4815 • AS 1668.2
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Every employee has a responsibility to report areas or equipment that require maintenance to enable standard or additional precautions to be maintained. • Engineering Services Department is responsible for all aspects of hospital maintenance, minor new works, and building redesign/upgrades. This section arranges microbiological quality control of water supply, air-conditioning cooling towers and ice making machines. • Infection Control, Housekeeping and Engineering Services do an environmental inspection of each ward/unit at least once every three months.

19 Outbreak management

Policy statement	Outbreak investigation and management will be initiated according to the definition outlined below.
Objectives	Outbreaks will be managed promptly and hospital acquired infections will be avoided and/or contained.
Definitions	<p>An outbreak is defined as increased cases of a disease than is normally experienced.</p> <p><u>A single case of some diseases</u> qualifies as an outbreak and special investigation and immediate control measures are required.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Measles • Gonococcal conjunctivitis • Malaria • Typhoid fever <p><u>More than one case is required</u> of other diseases to constitute an outbreak particularly if cases are linked through personal contact, location or time of onset.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Gastroenteritis in people who ate at a common place <p>Management strategy:</p> <p>It is often difficult to assess the importance of presentations with potential communicable diseases. A low threshold for notification and action is required.</p> <ul style="list-style-type: none"> • Collect appropriate specimens to detect the cause of the outbreak. For example in a potential food borne outbreak always collect stool samples for culture • Consider the risk of transmission of the illness to other patients or staff and take appropriate precautions such as isolation of the case(s). For example a possible case of measles should not be held in the waiting area, as all susceptible people in the room will become infected. <p>Support personnel:</p> <p>In all cases that could potentially indicate an outbreak, including those of uncertain importance, contact the following people through the switchboard operator.</p> <p><u>Nursing Director of Infection Control</u> for advice and protocols for managing hospital cases with communicable diseases.</p> <p><u>Centre for Disease Control (CDC)</u> CDC has responsibility for investigating community outbreaks and are in the best position to determine the potential nature and extent of the outbreak. Early notification is essential.</p> <p>Risk management:</p> <p>In an outbreak in which <i>multiple admissions</i> are expected, or of a complex or unusual transmissible illness such as diphtheria or the haemorrhagic fevers, contact the following people through the hospital switchboard operator:</p>

	<p>Business hours:</p> <ul style="list-style-type: none"> • ID Physician/Medical Division Director • Director Centre for Disease Control • Director of Microbiology • Nursing Director Infection Control <p>After hours:</p> <ul style="list-style-type: none"> • Nursing Resource Consultant • On call Physician/Medical Division Director • On-call Disease Control Officer • Director of Microbiology • Nursing Director Infection Control <p>Where appropriate it is the responsibility of the Infectious Diseases Physician to notify hospital-based outbreaks to the Chief Health Officer (CHO), and the responsibility of the Director of CDC to notify community-based outbreaks. For further information on community outbreak investigations and plans refer to the Centre for Disease Controls (CDC) treatment protocol listed below.</p> <p>Contact tracing:</p> <p>Will be performed to identify, recall, counsel and test any patients or HCWs that have been exposed to an infection. HCWs may require to meet certain requirements before returning to work.</p> <p><u>External outbreak of Infection</u> – Managing Hospitalised Patients</p> <p>Refer to algorithm 2.</p>
Scope and application	Outbreak management applies to all members of the Health Care Department and requires co-ordination between RDH, CDC and community HCWs.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • CDC <i>Framework for investigating outbreaks in the NT</i> 2000 • RDH Emergency Procedures manual.
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Infection Control has a responsibility to undertake surveillance to detect outbreaks and initiate a response. • All HCWs have a duty to report and use appropriate additional precautions for people suspected to be part of an outbreak.

Algorithm 2: External outbreak of Infection – Managing hospitalised patients



20 Reporting systems/infection control breaches

Policy statement	Effective reporting for breaches of infection control will be undertaken.
Objectives	Effective reporting of breaches will enable correction of the breach and implementation of safe work practices. Also as aiding in improving the processes in the infection control program.
Definitions	<p>Infection control process improvement form.</p> <p>Work practices outlined in this manual are designed to provide optimum staff and patient safety in regard to Infection Control. When breaches of Infection Control policy occur reporting enables feedback on areas requiring education, clarification or review.</p> <p>An example of the form is on the following page.</p>
Scope and application	All employees of the Royal Darwin Hospital.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>.2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • RDH Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000.
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Infection Control is required to provide risk assessment and follow up action with Infection Control breaches.

21 Surveillance

Policy statement	Data will be collected identifying the number of community and hospital acquired infections including antimicrobial resistance. Data will also be collected in relation to exposure related incidents within the hospital. This data will be used to achieve objectives.
Objectives	<ul style="list-style-type: none"> • Reduce hospital acquired infection rates • Establishing endemic infection rates • Identify outbreaks • Drive evidence based changes in clinical practice • Evaluate control measures.
Definitions	<p>Surveillance of hospital-acquired infection is a continuous activity of data collection, analysis, interpretation and timely feedback to clinicians so they may learn and apply appropriate clinical management and intervention.</p> <p>Passive surveillance is performed by infection control following the Australian Council on Health Care Standards (ACHS) clinical indicators. It is achieved by recording, analysing, interpreting of patients who present with or develop a:</p> <ul style="list-style-type: none"> • Community acquired infection. • Hospital acquired infection. • Antimicrobial resistant bacteria, susceptible bacteria, viral and/or fungal infection. • Surgical site infection, including clean and contaminated surgery. • Hospital acquired bacteraemias. • Hospital acquired bacteraemia via a bloodline. <p>Information entered into CareSys also includes:</p> <ul style="list-style-type: none"> • Details of infected individual including hospital number • Gender • Ward location • Treating consultant • Date of admission, onset of infection and date of discharge or death • Site of infection <p>Data is analysed on a weekly basis and a monthly report formulated and presented to the Infection Control Committee. Outbreaks are investigated and outcomes documented and presented to the infection control committee.</p> <p>Data is also collected, recorded and analysed on incidents relating to occupational exposure to blood and body fluids.</p> <p>Data includes:</p> <ul style="list-style-type: none"> • Site of exposure • Severity of exposure • Nature of exposure • Location of exposure • Procedure or implement causing the injury • If any infectious agent was involved • If any prophylaxis commenced

	<ul style="list-style-type: none"> • Source patient
Scope and application	Surveillance encompasses any persons admitted or employed at the RDH and is performed by Infection Control.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>
Compliance and responsibilities	<ul style="list-style-type: none"> • Infection Control has a responsibility to collect a “minimum data set” • Infection Control have a responsibility to identify an outbreak and initiate the outbreak plan • Infection Control is responsible for evaluating control measures and formulating a response if required. • Monthly reports are tabled to the Infection Control Committee.

22 Therapeutic devices

22.1 Urinary and suprapubic catheters

Refer to Royal Darwin Hospital Evidenced based manual for Nursing Practice 2008

http://internal.health.nt.gov.au/hospital/rdh/rdh_evidence_based_manual_001.pdf

22.2 Peripheral intravascular access devices

Policy statement	Intravascular access devices will be managed with an aseptic technique. Measures defined below will be used to reduce the incidence of bloodline infections.
Objectives	Hospital acquired bloodline infections and associated bacteraemia will be within limits set by the infection control committee. As well as the ACHS threshold for hospital acquired bacteraemia 0.9%.
Definitions/ Protocol	<p>Intravascular access devices provide potential routes for infectious agents to cause local infection or to enter the bloodstream. They are now a common source of serious illness or death for some patients. The risks can be minimised by adherence to appropriate infection prevention precautions.</p> <p>To minimise the risks associated with catheter use, intravascular devices should only be used when absolutely necessary and must not remain in situ unnecessarily.</p> <p>Strategies for minimising infection</p> <p>The risk of hospital acquired infection can be minimised by:</p> <ul style="list-style-type: none"> • Aseptic technique during line changes and therapy administration. • Cleaning the insertion site with Persist Plus™ and allowing to dry prior to procedure^a. • Injection ports must be aseptically swabbed with 70% alcohol prior to use. <p>Clinical conditions governing re-insertion of cannulae:</p> <ul style="list-style-type: none"> • Any intravascular device inserted in haste during acute resuscitation of a life-threatening crisis is to be replaced as soon as possible. • Clinical evidence of acute inflammation at the insertion site is an indication for immediate replacement regardless of duration of insertion. Insertion site/suture site swabs and catheter tips are sent for culture with all lines with evidence of infection. Blood cultures are initiated for febrile patients. • Intravascular lines are changed in patients with clinical evidence of infection without an obvious source of infection. <p>Duration of line insertion</p> <p>In the absence of the above problems, peripheral lines should be resited after being in place for 48-72 hours <u>or after 24 hours for patients with mechanical cardiac implants</u>. However it is acceptable for an insertion site to be used for a longer period of time, with the proviso that the reason for extending the insertion time is clearly documented in the patient's medical record. There must also be documented evidence that the insertion site and patient condition is being closely monitored for early signs and symptoms of line sepsis. It is recognised that lines are often left in situ for longer periods of time in paediatric patients due to replacement difficulties.</p> <p>The decision to extend the life of a peripheral line longer than 72 hours should be made by the treating specialist/registrar taking into account the specific case complications and requirements. Rationale to be documented in patient record by medical team member.</p>

	<p>Peripheral long lines:</p> <ul style="list-style-type: none"> Standard long lines: 48 hours. <p>Staff attire / precautions for peripheral line insertion:</p> <p>Hand hygiene and the use of sterile gloves forms part of the routine standard precautions required for the insertion of peripheral cannulae. Clean non-sterile gloves can be used if a no touch technique is used. Protective eye wear is recommended to avoid blood splash to eye should the patient jerk or move suddenly during the procedure</p> <p>Guidelines for changing IV administration sets (Lines).</p> <p>Lines need to be changed:</p> <ul style="list-style-type: none"> Following a maximum of 72 hours. Following blood/blood cell/platelet products. After the cannula has been resited. When the integrity of line has been compromised, i.e., disconnected. Intravenous solutions must be changed after 24 hours. <p>Disconnecting peripheral and other IV Lines:</p> <ul style="list-style-type: none"> Hand hygiene and no-touch technique mandatory for all procedures that require disconnection of the line. Principles of standard precautions must be maintained during procedures where there is a risk of blood/body fluid contamination to skin, eyes or mucous membrane. <i>Do not teach patients to disconnect their IV lines.</i> The rate of line associated bacteraemia rises steeply when patients handle their own IV lines. Lines that are established simply for the period covering the administration of a drug are to be discarded at the end of the administration period and a new line used for each dose. Lines are not to be looped or left hanging free for further use. <p>IV dressings:</p> <p>Replace PRN only. (Dressing changes are not usually required as peripheral catheters should be resited every 48 to 72 hours unless medically indicated) An occlusive dressing with a high moisture vapour transmission rate (MVTR) such as Opsite IV 3000 should be used.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>.2004</small></p>
Scope and application	HCWs involved with the insertion and maintenance of intravenous access devices.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee. Failing to meet the ACHS threshold for hospital acquired bacteraemia 0.9%.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>.2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital <i>Process and Outcome Standards, a guide to</i>

Compliance and responsibilities	<p><i>nursing procedures</i> December 2002</p> <ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Infection Control is responsible for surveillance of infections and associated bacteraemia. • HCWs involved with the care or insertion of an intravascular device are required to comply with the above policy. • HCWs performing insertion of intravascular device should be trained and competent at the technique or supervised by someone who is.
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^a Studies have indicated that 2% chlorhexidine is more effective than 10% povidine Iodine or 70% alcohol for cutaneous disinfection before insertion of an intravascular device (CDNA)

22.3 CVC access devices

Policy statement	Intravascular access devices will be managed with an aseptic technique. Measures defined below will be used to reduce the incidence of bloodline infections.
Objectives	Hospital acquired bloodline infections and associated bacteraemia will be within limits set by the infection control committee. As well as the ACHS threshold for hospital acquired bacteraemia 0.9%.
Definitions/ Protocol	<p>To minimise the risks associated with catheter use, intravascular devices should only be used when absolutely necessary and must not remain in situ unnecessarily.</p> <p><u>General asepsis</u></p> <p>Staff attire and precautions for line insertion:</p> <p>Surgical hand wash, long sleeved sterile gown, sterile gloves, a surgical mask and hat are mandatory for inserting central lines or vas catheters. Protective eyewear are to be worn to comply with routine standard precautions.</p> <p>Accessing/Disconnecting IV lines:</p> <ul style="list-style-type: none"> • Hand hygiene and no-touch technique mandatory for all procedures that require disconnection of the line. • Principles of standard precautions must be maintained during procedures where there is a risk of blood/body fluid contamination to skin, eyes or mucous membrane. • Do not teach patients to disconnect their IV lines. The rate of line associated bacteraemia rises steeply when patients handle their own IV lines. • Lines that are established simply for the period covering the administration of a drug are to be discarded at the end of the administration period and a new line used for each dose. Lines are not to be looped or left hanging free for further use. • Full aseptic technique usually practiced for high risk/paediatric patients. (Oncology patients etc) <p><u>Accessing CVC and IV lines via an injection port.</u></p> <p>Ports and bungs can be accessed after thorough cleaning with an alcohol swab and no touch technique¹. Sterile gloves and gown are not required. Following hand hygiene clean the port with alcohol swab and wait for the bung to dry before accessing port while using a strict non-touch technique.</p> <p><u>General principles</u></p> <p><u>Clinical conditions governing re-insertion of CVC:</u></p> <ul style="list-style-type: none"> • Any intravascular device inserted in haste during acute resuscitation of a life-threatening crisis is to be replaced as soon as possible. • Clinical evidence of acute inflammation at the insertion site is an indication for immediate replacement regardless of duration of insertion. Insertion site/suture site swabs and catheter tips are sent for culture. Blood cultures are initiated for febrile patients. • Intravascular lines are changed in patients with clinical evidence of infection without an obvious source of infection. Catheter tip and blood cultures are initiated. Outside of Critical Care areas routine cultures of CVC, PICC or other lines are not required unless a bloodline infection is

suspected.

Guidelines for changing IV administration sets (Lines).

Lines need to be changed:

- Following a minimum of 72 hours. TPN with lipids are required to be changed at 24 hours.
- Following blood/blood cell/platelet products.
- After the line has been resited.
- When the integrity of line has been compromised, i.e., disconnected.
- Intravenous solutions must be changed after 24 hours.

TPN central line:

- Administration sets for TPN must be changed every 24 hours. If the solution contains only glucose and amino acids, administration sets in continuous use do not need to be changed until 72 hours¹.
- Preferably a single lumen catheter should be used for administration of TPN. If a multi lumen catheter is used, one port must be dedicated for TPN¹

Maintaining line patency

- CVCs should be flushed and locked with 0.9% normal Saline to maintain patency and not heparin saline unless recommended by the manufacturer¹.

Duration Of Line Insertion:

Peripherally inserted central catheter (PICC)

- Polyurethane (short term): 7 to 10 days.
- Silastic (long term) for duration of patient requirement unless complications detected.

CVC / VAS catheter

- Subclavian, internal/external jugular, cubital fossa long lines should be assessed after 7 - 10 days and removed if medically indicated.
- Silastic long lines and tunnelled central lines are long-term devices, inserted for the duration of patient requirement.
- Vascaths (including femoral vascaths) should be replaced when clinically indicated.
- Implantable devices (e.g., Portacath) are permanent implants.
- Un-tunnelled femoral lines should be replaced after one week.
- Huber point needles, used for continuous transfusion through an implantable device, should be replaced after 5 to 7 days in situ.

Guide wire precautions:

The use of Seldinger guide wire for cannula replacement is inappropriate when the current cannula or insertion site is infected or likely to be infected. In such cases, the new cannula must be inserted at a fresh, uninvolved site. The tip of the old cannula should be cultured when guide-wire cannula replacement is undertaken for mechanical reasons. It may be necessary to resite the patient's cannula when culture results show microbiological contamination/infection.

	<p>Catheter site care</p> <p>CVC</p> <ul style="list-style-type: none"> • An occlusive dressing with a high moisture vapour transmission rate (MVTR) such as Opsite IV 3000 should be used. • Clean skin with chlorhexidine 1% in alcohol (<i>Persist Plustm</i>) working out from catheter insertion site, prior to application of new dressing¹. • Coiling catheter under dressing with only connection exposed helps prevent insertion site induration. (Refer to Nursing Clinical management Standards) • If a patient has profuse perspiration, or the insertion site is bleeding or oozing, a sterile gauze dressing is preferable to a transparent dressing¹. • Dressings should be replaced every 7 days or if they are no longer intact or moisture collects under the dressing¹ <p>PICC and CVC site: Dressing changed weekly and PRN. (i.e., When dressing has become non-occlusive).</p> <p>Haemodialysis Catheter site: Dressing changed weekly and PRN.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting.2004</i> <i>RDH Infection Control Standards 2001</i> Richard Wells Research, Prevention of Health care associated infections in primary and community care. June 2003.</p>
Scope and application	HCWs involved with the insertion and maintenance of intravenous access devices
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee. Failing to meet the ACHS threshold for hospital acquired bacteraemia 0.9%.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting.2004</i>. • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital <i>Process and Outcome Standards, a guide to nursing procedures</i> December 2002
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Infection Control is responsible for surveillance of CVC, Vascath infections and associated bacteraemia. • HCWs involved with the care or insertion of an intravascular device are required to comply with the above policy. • HCWs performing insertion of intravascular device should be trained and competent at the technique or supervised by someone who is.

¹ Richard Wells Research, Prevention of Health care associated infections in primary and community care. June 2003.

22.4 Enteral feeding

Policy statement	HCWs or persons involved with the administration and storage of enteral feeds will comply with the areas defined below.
Objectives	Hospital acquired infections will be within thresholds set by the Infection Control Committee.
Definitions	<p>Enteral feeding.</p> <p>Patients on enteral feeds are usually debilitated and susceptible to infection. It is essential to observe all food hygiene protocols and to immediately report any evidence of diarrhoeal disease among these patients to their treating team.</p> <p>Essential requirements:</p> <ul style="list-style-type: none"> • PVC naso-gastric tubes require changing after 10 days as PVC is affected by gut acid. Polyurethane and silastic naso-gastric tubes have a much longer in-use life and should be changed in accordance with manufacturer's recommendations. • Enteral feed pumps and administration sets must not be interchanged with intravenous administration systems. • Hand hygiene must be performed before handling any feed or enteral feed equipment. • Commercially prepared feed containers must be wiped over with an alcohol-impregnated wipe before opening. • Use-by dates are to be checked and product not used if limit exceeded. • In-house feeds are to be prepared in accordance with protocols and standards for formula preparation. • Prepared feeds must be identified with the patient's name and date of preparation. Unused feeds are discarded after 24 hours from time prepared. • Partially used cans of commercially prepared feeds are to be labelled with patients name and date of opening, then kept in refrigeration for use within 24 hours from opening. If the product has not used within this time it must be discarded. • Prepacked canned feeds must not be stored at temperatures exceeding 30 C and must display a use by date. Stocks must be rotated on a "first in first out" basis. <p>Administration of continuous feeds:</p> <ul style="list-style-type: none"> • Individual feeds shall not be administered over a period longer than 12 hours. • To allow for more frequent feed type changes or formula grading for paediatric patients, two different feeds may be administered in 4 hourly batches using the one administration bag for a period not exceeding 8 hours. The container must be completely emptied of the initial feed before the second formula is added. • Adult patient enteral feeds are not to be added to or topped up. • Feed administration bags are discarded after single use for one feed period, which is usually administered over an 8-hour period. This may be extended to a 12-hour period but must not exceed this time. • Enteral feeding administration (tubing) sets are to be changed and

	<p>discarded after 24 hours in use.</p> <p>Intermittent / bolus feeds:</p> <ul style="list-style-type: none"> • Extension tubing and syringes used for paediatric intermittent feeds must be flushed with water before and after use and must be replaced with a clean set every 8 hours. • Giving sets and reservoirs used for adult bolus/intermittent feeds are to be washed in warm soapy water. Rinsed and hung to dry between feeds. Fully replace set daily.
Scope and application	HCWs and any person involved with the administration and/or the storage of enteral feeds.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Evidenced based manual for Nursing Practice 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • HCWs or people involved with the administration and/or storage of enteral feeds have a responsibility to comply with the above policy • Infection Control is responsible for surveillance of gastrointestinal infections and associated bacteraemia. • Each ward and unit has a responsibility to provide staff with education regarding RDH enteral feeding requirements

23 Wound care

Policy statement	Principals as outlined below will be applied to the treatment of all wounds. Standard and when applicable additional precautions will be used.
Objectives	Wound infections and Surgical site infections will be within limits set by the RDH Infection Control Committee using ACHS Clinical Indicators.
Definitions/ Protocol	<p>General wound care principles.</p> <ul style="list-style-type: none"> • Patients with clean wounds are not accommodated in the same room as other patients with infected wounds. • Most surgical wounds are in a suitable condition to leave uncovered by 48 hours from the time of operation. • Clean, dry surgical incisions do not require cleaning prior to removing sutures, clips or staples. • Pain free wound care is achieved by optimal and timely use of analgesic cover. • An aseptic technique is used for open wound care. Sterile gloves are required to physically examine (touch) a wound. Gloves are not required when a “non-touch” dressing technique can be maintained by using forceps. • A warm normal saline flush is used to clean open wounds rather than swabbing with gauze that may damage epithelial cell formation. Chemical disinfectants are not recommended. • Sterile non-woven swabs are used when it is necessary to remove foreign material/matter from a wound. Wool swabs or woven gauze are not a suitable replacement. • The skin surrounding a wound is cleaned and dried as part of the wound care process. • Open wounds for inspection should be taken down, inspected and re-dressed immediately. When this is not possible, plastic film, securely fixed in place, may be used as a short term/temporary cover to keep open wounds moist and warm while undressed. This practice is suitable for wounds that do not have a heavy exudate. Plastic film rolls are labelled and used for one patient only and discarded when no longer required. Alternatively, sterile material drapes are used to cover exposed wounds. The material drape must be securely fixed and patient instructed not to lift or remove it from the wound. • Wounds should be redressed within one hour of being taken down for inspection. The aim is to have the wound “down” for the shortest possible time and this can be achieved by arranging wound inspection times with the surgical team. • Wound dressings with strike-through are fully changed, not simply reinforced. Exceptions to this are specialty wounds such as skin grafts, donor sites, burns and severe/painful wounds that are only changed in theatre under anaesthetic. Bleeding strike through on a “pressure dressing” is reported to the surgeon and his/her orders followed. • Grafts, donor sites and burns that are covered with a retention dressing are left intact. The retention dressing is washed daily with soap and water to remove strike through. The outer bandages are changed daily.

Preventing surgical site infection (SSI)

Infections in clean and contaminated elective surgery are largely preventable, and infection rates for these events are used within the health industry as a measure of quality of service. National Clinical indicators have been established and, through the Australian Council on Health Care Standards, thresholds have been established for hospitals to measure their performance against.

Patient admission:

- Elective surgical cases are admitted as close to surgery time as is practical to decrease the risk of infection caused by hospital pathogens.
- Admission should be on the day of operation if possible, however it is accepted that patients with identified risk factors may need to be admitted earlier for pre-operative work-up.
- Patient skin is checked carefully on admission and any signs of infestation or infection reported to surgical team.

Accommodation:

- Patients admitted for clean surgery are not accommodated in the same room as patients with open infections.
- Where possible patients should be admitted to the relevant ward for their condition management.

Pre-operative skin preparation:

- Skin preparation, if required, is to be carried out before patient showers for theatre and dresses in clear attire.
- Shaving is discouraged, if absolutely necessary clipping is preferred to shaving.
- Battery-operated clippers with disposable, single use heads are available if absolutely required. After use blade is discarded, clipper unit is cleaned using alcohol wipe and left "on charge" while not in use. The handle is washed in hot soapy water and decontaminated by immersing in 70% alcohol / chlorhexidine solution for 30 minutes. Handles are stored dry after decontamination.

Pre-operative showering:

- Disposable, single use disinfectant impregnated sponges containing either povidone-iodine or chlorhexidine are provided for patient pre-operative showering.
- Patient should shower then dress in a freshly laundered hospital gown at least 30 minutes before theatre call time.
- Same Day Procedure Patients are to be instructed at the Anaesthetic Clinic to shower before coming in to hospital for their procedure.

Transfer to theatre:

- Either the patient's bed or a theatre trolley may be used to transport the patient to theatre.
- When the patient's bed is used for theatre transfer, ward staff must thoroughly wash the bed and re-make it using all fresh linen. The theatre PCA is responsible for cleaning and changing the trolley linen after each patient transfer.

Linen:

- Used ward bed linen is not taken to theatre with the patient.
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	<ul style="list-style-type: none"> Post-op bed is made up with fresh linen ready for patient's return from theatre. <p>Post-operative wound care:</p> <ul style="list-style-type: none"> Excessive and or unexpected post-operative bleeding requires immediate reporting before disturbing existing dressings. Closed drainage units or sterile drainage bags are preferred for wound drainage management. Clean, dry wounds are left intact for the period of time specified by the surgeon. Clinical signs and symptoms of infection dictate immediate inspection of the wound. Note: It is neither necessary nor desirable to conduct routine daily inspection and re-dressing of clean, dry wounds. Wounds requiring inspection are taken down immediately prior to the time arranged with the surgeon/doctor and re-dressed immediately after inspection. Wound exposure is minimised to prevent heat/moisture loss and to limit risk of microbial contamination. Staff when dressing or irrigating open/discharging/-bleeding wounds wear protective eyewear, masks and gloves. Warm normal saline wound irrigation is preferred for cleaning open / draining wounds. Gauze swabs and/or cotton wool balls are not recommended for open wound care as these items cause cell trauma and may leave fibres in the wound. Wounds are cultured prior to antibiotic commencement. The laboratory is to be advised if patient is already on antibiotics at the time of specimen collection. Hats and masks are not required for the removal of a dressing from a clean, dry wound. When clean, dry wounds are >48–72 hours old, a dressing is not usually necessary. Clean dry wounds are <u>not</u> moistened prior to suture/clip removal. Patients are advised on wound care before discharge from hospital. <p>Adapted from RDH Infection Control Standards 2001</p>
Scope and application	HCW's involved with wound care or preparation of a patient for theatre.
Review cycle and responsibilities	Due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set be the Infection Control Committee or the ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital <i>Nursing Clinical Management</i>. P16-1, P17-1, D7-1. 2003 December
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. HCW's performing dressings have a responsibility to apply the above

	<p>principals in combination with latest evidence based use of dressing products and techniques.</p> <ul style="list-style-type: none"> • Each ward and unit is responsible for ongoing wound care education through in-services, handouts and attendance of formal courses • RDH has a 'Pressure Ulcer Prevention' and a 'Wound Management' working group that are responsible for assessing and formulating ongoing wound management and wound prevention practices.
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23.1 Microbiology and wound care

Policy statement	Specimens will be collected and transported in accordance with the pathology handbook and as defined below. Standard and when applicable additional precautions will be applied.
Objectives	Specimens will be collected and transported safely and be of optimum clinical benefit.
Definitions/ Protocol	<p>Abscesses and infections associated with wounds and ulcers show redness, swelling, and warmth in the surrounding tissues, pain and loss of function. Infected wounds usually have either a discharge or an accumulation of infected material, e.g., pus. The swab of the wound should not be unnecessarily contaminated with material from outside of the infected area. Failure to observe care in obtaining the swab may result in confusing reports due to the growth of contaminating bacteria. If seriously concerned about an infection, swabs should be avoided and tissue collected under appropriate conditions. Swabs are an inferior means of collecting infected material.</p> <p>Specimen collection:¹</p> <p>Obtaining accurate and relevant laboratory results primarily depends on the quality of specimen collection and transportation using measures to prevent specimen deterioration while maintaining optimal safety precautions. Specimens contaminated by poor collection or by contact with disinfectants are of no value.</p> <p>Key points for effective collection are:</p> <ul style="list-style-type: none"> • Collect specimen in a sterile manner and place in appropriate sterile container.² • Use specialised collection kits for obtaining blood specimens for culture or analysis. • Specimens should be obtained prior to commencing antimicrobial therapy. • If a patient is already on antimicrobials, record type(s) on pathology request form. • Specimens must be labelled with patient's name, site, time and date of collection. • Swabs must be placed in transport medium. Additional air-dried smears are preferred for investigation of genital infections. Roll the swab on middle of slide; do not smear or rub. Label slide correctly. • Laboratory specimens must be placed in a biohazard bag and be accompanied by a request form. • The request form or referral must be completed appropriately as described in the Pathology Department handbook. The referring doctor's name and signature must be present or the specimen will be rejected. It is very important that the reason for the referral is also noted as this information can improve the laboratory diagnosis of infection. <p>Taking a wound swab for culture:</p> <p>A fresh, unused sterile swab should be employed. If there is a crust present then this must be removed or displaced before the swab is introduced beneath the crust³. Avoid using the culture swab to displace the crust, if necessary use sterile forceps or wash the area with sterile saline. The swab should then be applied to the exudate from the wound, or in the case of an ulcer from the granulating edge or underneath the granulating edge. If the</p>

	<p>wound has a deep pocket or a sinus then the swab should be taken from deep inside the wound.</p> <p>Aspirates of pus and tissue:</p> <p>Pus or tissue fluid may be aspirated into a syringe. If pus is to be aspirated then a broad gauge needle (at least 19G) should be used. If tissue aspirates are being sought then a finer needle should be used, eg 21G. Aspiration should only be performed after the overlying skin has been disinfected and allowed to dry completely. If the lesion is not suspected to be an abscess e.g., an area of cellulitis, then 0.5 mL of sterile saline may be injected into the edge of the lesion prior to aspiration. After aspiration the needle should be removed with forceps and the syringe capped with a sterile cap (available from Stores). Alternatively, the aspirate can be dispensed into a sterile container for submission to the Pathology Department. The specimen must NOT be transported with the needle attached, even if sheathed. The whole syringe (less needle) must be hand delivered to the laboratory and not sent by pneumatic tube to avoid accidental plunger depression dispensing the aspirated material.</p> <p>Specimen transport:</p> <ul style="list-style-type: none"> • Most wound and ulcer swabs can be transported at room temperature. • <u>Do not</u> allow the swab or wound discharge material to be exposed to intense sunlight or heat (e.g., back seat of car). • If there is likely to be a delay of more than one or two hours, specimens from out side the hospital should be placed in a Styrofoam container. • Avoid refrigerating swabs. • Urine and sputum should be refrigerated. • Blood for culture should be incubated at 35°C as soon as possible. • Specimens should be transported as soon as possible. A delay of six hours will limit the value of results. A delay of ≥ 12 hours makes many specimens useless. <p><u>For further information contact the Clinical Microbiologist or Microbiology Registrar</u></p> <p>Routine tests on wounds and ulcers:</p> <p>A medical laboratory scientist will perform a Gram's stain and culture on all wound, abscess and ulcer swabs and discharges. Although most organisms are likely to be detected by the routine methods, it is advisable to indicate on the request form any particular additional organisms that are being sought.</p> <p>Special tests on wounds, abscesses and ulcers:</p> <p>If culture for <i>Burkholderia pseudomallei</i> (melioidosis), <i>Mycobacterium tuberculosis</i> (tuberculosis) or other mycobacteria, Nocardia or fungi is required please indicate this on the request form. It is recommended that these requests be discussed directly with a senior microbiology staff member.</p> <p>Pathology handbook: Refer to the handbook for specimen collection and information on tests.</p>
Scope and application	HCWs involved in the collection, transportation or ordering of Microbiology specimens.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA or RDH pathology guidelines. In response to a specific incident or failing to meet limits set be the Infection Control

	Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. RDH Pathology Handbook 2003 http://internal.health.nt.gov.au/hospital/pathology/path.htm Nursing Clinical Management Clinical Practice Manual <i>Specimen Collection</i> S5-1
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. Wards/Units and Pathology have a responsibility to ensure they are working within the protocol outlined above. Each ward and unit is responsible for the education regarding the collection and transportation of specimens.

¹ Refer to the Pathology Handbook on the DCHS Intranet site for full details on specimen collection.

² Use sterile red top universal specimen container for critical specimens such as tissue, CSF, synovial fluid, pericardial fluid and similar. Yellow top containers are suitable for routine sputum and urine culture.

³ Use the bevelled edge of a fresh sterile injection needle as a blade to cut the crust away.

24 Patient accommodation

Policy statement	Patients will be accommodated in cooperation with bed state, Nursing Resource Consultants and each ward or unit as defined below.
Objectives	Hospital acquired infection rates will be within a threshold set by Infection Control Committee and ACHS clinical indicators.
Definitions	<p>As far as is practical and possible, patients should be accommodated within ward/unit provided for the type of medical speciality/patient condition. Transfer of patients between wards/departments should be carried out in full consultation with treating medical speciality and ward staff.</p> <p>Patients free from sepsis are not to be accommodated in the same room as patients with overt infections. Severely immunocompromised patients should be accommodated in single rooms.</p> <p>Isolation procedure</p> <p>The following are work practices that ensure correct isolation:</p> <ul style="list-style-type: none"> • Emergency Department are responsible for triage and the admitting clinician will decide if an 'Additional Precaution' is appropriate depending on the presenting symptoms of the patient. This should remain in place until excluded with further investigations and/or laboratory findings. Infection Control are to be notified. Refer also to SARS protocol section 29.14. • On admission patients who are known to have an infection/colonisation with pathogenic microorganism that require additional precautions are required to be isolated or cohorted. Triage and bed management must assure correct type of precautions and isolation are implemented. • The Microbiology Laboratory has a "round" each day that Infection Control is invited to attend. Any patients with newly discovered pathogenic microorganisms that require additional precautions are entered onto the patient alert screen in CareSys. The Clinical Nurse Manager or delegate is notified and precautions are initiated based on transmission route/s. On weekends the microbiology staff ring the ward direct. and if necessary the NRC. • Infection Control staff to ensure correct accommodation and reviews a list of inpatients with additional precautions daily. • Infection Control must be consulted/informed when removing someone from additional precautions. <p>Patient isolation:</p> <p>Patients requiring isolation should be managed in a single room in the normal ward catering for their condition. The exceptions are patients requiring airborne precautions.</p> <ul style="list-style-type: none"> • Adult patients requiring airborne precautions are managed in a negative pressure room in ward 4B. • Children requiring airborne precautions are accommodated in the paediatric isolation ward on 7B (ISOP). <p>Patients suspected of having a viral haemorrhagic fever or SARS are accommodated in the 4B isolation unit (room 13 as a staff change room and room 14 as the patient's bed room).</p>

Bed spacing:

The centre of each bed should be at least 2.5 metres apart and overcrowding with extra beds should be avoided. Safe standards of practice in Special Care Nursery (SCN) require that 1.5 metres clearance be allowed between incubators. That there is 1.8 metres clear at foot of incubator or bassinets, and 1.2 metres clear between bassinets.

Midwifery readmissions:

Post-partum patients requiring re-admission are often quite ill and need to be accommodated in the maternity section to ensure easy access to obstetric medical staff and nursing care by skilled midwives.

The Infection Control Committee provides the following guidelines to assist staff select suitable placement of the patient within the unit without compromising the care of other patients:

- Provided the reason for readmission pertains to the patient's recent confinement, the patient should be accommodated in the post-natal ward if a bed is available.
- When possible, the readmitted mother (and baby) should be accommodated in a single room. This is essential if the mother (or baby) has a suspected/confirmed infection. Specific infectious conditions are to be isolated as outlined in the Infectious Diseases accommodation protocol, see table 1.
- The mother should be questioned on recent skin sepsis, coughs, colds, sore throats, diarrhoea and other communicable diseases present among household contacts. Where these problems are noted, isolation/segregation needs considering in line with Infectious Diseases accommodation protocol.
- Regardless of the reason for readmission, the mother (and baby) should be examined for evidence of infection/infestation and accommodation selected on findings.
- Where the routine admission examination, the diagnosis and relevant history does not indicate any evidence of infection or contact with an infectious disease, the mother (and baby) may be allocated share accommodation if a single room is not available.

Orthopaedic ward admissions

Generally speaking, patients with overt infections are not admitted to the Orthopaedic Ward. Exceptions to this are cases best cared for in the Orthopaedic Ward as determined by the treating Orthopaedic Specialist. In such cases arrangements will be made to nurse the patient in isolation.

At times of severe bed shortage, avoid admitting patients with overt infections to the orthopaedic ward by selecting a non-infected inpatient for transfer into the Orthopaedic Ward, and admitting infected patients to the vacated bed in the other ward.

General patients with the following conditions are excluded from the orthopaedic ward:

- Draining abscesses
 - Skin and / or wound sepsis
 - Untreated scabies and Norwegian scabies
 - Pneumonia or purulent respiratory infection where the infecting organisms have not yet been defined and treated
 - Staphylococcal pneumonia even if on treatment.
 - Fever of undiagnosed cause
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- Untreated bacterial meningitis.
- Patients with permanent indwelling urinary catheters are to be excluded from the ward unless they are bona fide orthopaedic patients.

Burns admissions

Severe burns patients requiring resuscitating and/or intensive care nursing are admitted direct to ICU and subsequently transferred interstate or, when condition stable.

Less severe adult burns patients are admitted to the burns unit on 2A. Refer to the Burns Unit protocol for admission criteria to the unit. The room and all articles are to be decontaminated as outlined in the Environmental Cleaning Section 13 and the Equipment Decontamination Section 10 of this manual.

Paediatric burns patients are accommodated in Paediatric Ward unless severely infected, in which case, transfer to Paediatric Isolation Ward (ISOP) should be considered.

Burns Bathroom (ward 2A)

The burns bathroom and trolley are primarily for the care of patients admitted with burns. Medical sundries and other consumables such as linen are not stored in the bathroom. A dressing trolley is set up for each patient use. The bathroom and equipment are washed and dried after each patient care episode. The ward cleaner cleans the area during weekday normal business hours. After hours the area is cleaned by a PCA. The burns bathroom should be rested for 1 hour after cleaning to allow the appropriate number of air changes.

Rehabilitation Unit:

The Rehabilitation unit is considered a non-acute setting and as such less strict isolation is required. Contact infection control regarding the suitability of potential and current clients housing requirements.

General paediatric patients:

Are admitted to Paediatric Ward. Those with signs and symptoms of diarrhoea, suspected of being infectious, and those with multi resistant bacterial infections not contained by dressings are admitted/transferred to the Paediatric Isolation Ward (ISOP).

Patients are not transferred from Isolation Ward to general Paediatrics Ward until shown to be culture negative and appear to be clinically free of intestinal infection.

Rapid Assessment Planning Unit:

Due to the open plan nature of the unit patients requiring additional precautions are generally not suitable for this unit. Due to bed shortages it may be required to house the odd patient following consultation with Infection Control.

Adult accommodation chart for common conditions

Refer to table 15

Child accommodation policy for common conditions

Refer to table 16

	Adapted from: RDH Infection Control Standards 2001
Scope and application	HCW involved in the allocation and organisation of patient accommodation.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers.
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. Bed state, Nursing Resource Consultants and each ward and unit have a responsibility to provide appropriate patient accommodation that minimises the risk of hospital-acquired infection.

Table 15: Adult accommodation chart for common conditions

Condition	Optimal placement	Second choice (See footnote ^o)	Third choice (See footnote ^o)	Not acceptable (See footnote ^o)
Abdominal Surgery	Surgical wards, i.e. RAPU, 2A or 2B.	Medical wards, i.e., 4A (preferred) or 4B	Orthopaedics and Maternity ^a Clean cases only. (See footnote ^a).	Orthopaedics, 2A and Maternity wards if infected.
Bone infection	Orthopaedics with Consultant approval, otherwise surgical ward.	Medical Wards i.e., 4A or 4B	As above	Maternity
Cardiac disease (with no infection)	CCU / Medical wards/ RAPU	Surgical and Orthopaedic wards	Maternity ^a	
Crusted (Norwegian) Scabies	Single rooms of ward appropriate for primary condition.	Single room with ensuite in any ward except Orthopaedics		Orthopaedics and Maternity
Genito-urinary tract infections UTI, PID etc	Medical wards	Surgical wards	General Paediatrics and Maternity ^a .	Orthopaedics
GIT infections	Medical Ward - single room until cause identified.	Single Room in Surgical ward		Orthopaedics, Maternity General Paediatrics
Gynae -clean cases ^a .	Medical and Surgical wards. <u>Essential:</u> 4A for induced termination of pregnancy.	Surgical and Orthopaedics wards.	Maternity and General Paediatrics - exclude ectopic pregnancies and miscarriages.	

Condition	Optimal placement	Second choice (See footnote ^o)	Third choice (See footnote ^o)	Not acceptable (See footnote ^o)
ICU surgical transfer patient.	<u>General Surgery patient:</u> wards 2A & 2B <u>Orthopaedic patient:</u> 3A.	Medical wards 4A (preferred) or 4B.		
Multi-resistant bacterial infection	Single room or cohort in ward appropriate for primary condition.			2A, 3A, 3B, RAPU all have conditions on admission to their units.
Pulmonary TB Suspected or Proven.	General: 4B negative pressure single room. If ICU patient use negative pressure room.	No alternative ward placement acceptable.		All clinical areas other than optimal placement
Renal services patients § (Long term dialysis)	7A Renal ward	Medical wards	General Paediatrics ^a	Orthopaedics, and Maternity wards.
Respiratory tract infection	Medical wards – 4B preferred if pneumonia with productive cough	Surgical Wards if non-productive cough.	Paediatrics - provided non-productive cough.	Orthopaedics and Maternity
Soft tissue infection. i.e., Purulent wounds, draining abscesses & cellulitis, including compound /infected/ draining # mandibles.	Adult: Surgical wards RAPU, or 2B # Mandibles < 24 hrs old or having been on AB's since the time of # are acceptable admissions to 3A. > 24hrs should go to surgical /medical wards.	Medical Wards i.e., 4A or 4B	General Paediatrics ^a . Exclude "quinsy" and severe infections.	Orthopaedics or Maternity wards
Trauma - fresh, non-infected soft tissue injury. i.e., trauma, bites and stabs	Adults: Surgical 2A Child: General Paediatrics.	Orthopaedics, Medical wards.	General Paediatrics and Maternity ^a	

^o**Placement of outlier patients** is at the discretion of the ward CNM and after hours with the senior RN on duty in consultation with the Nurse Resource Coordinator and with adherence to this guideline.

^a**Clean surgery definition** excludes infected wounds, wounds with open (sump/Yates) organ/cavity drains or open bowel (colostomies, ileostomies). Clean surgery includes non-infected cases with closed (redovac-style) drains, such as a laparoscopic cholecystectomy with redivac drain.

^a**Female patients only.** Exclude psychiatric, demented, intoxicated, blind, infirm, and non-ambulant patients from Maternity and Paediatric Wards.

§ **Renal service patients** do not include general patients undergoing renal surgery

Table 16: Child accommodation policy for common conditions

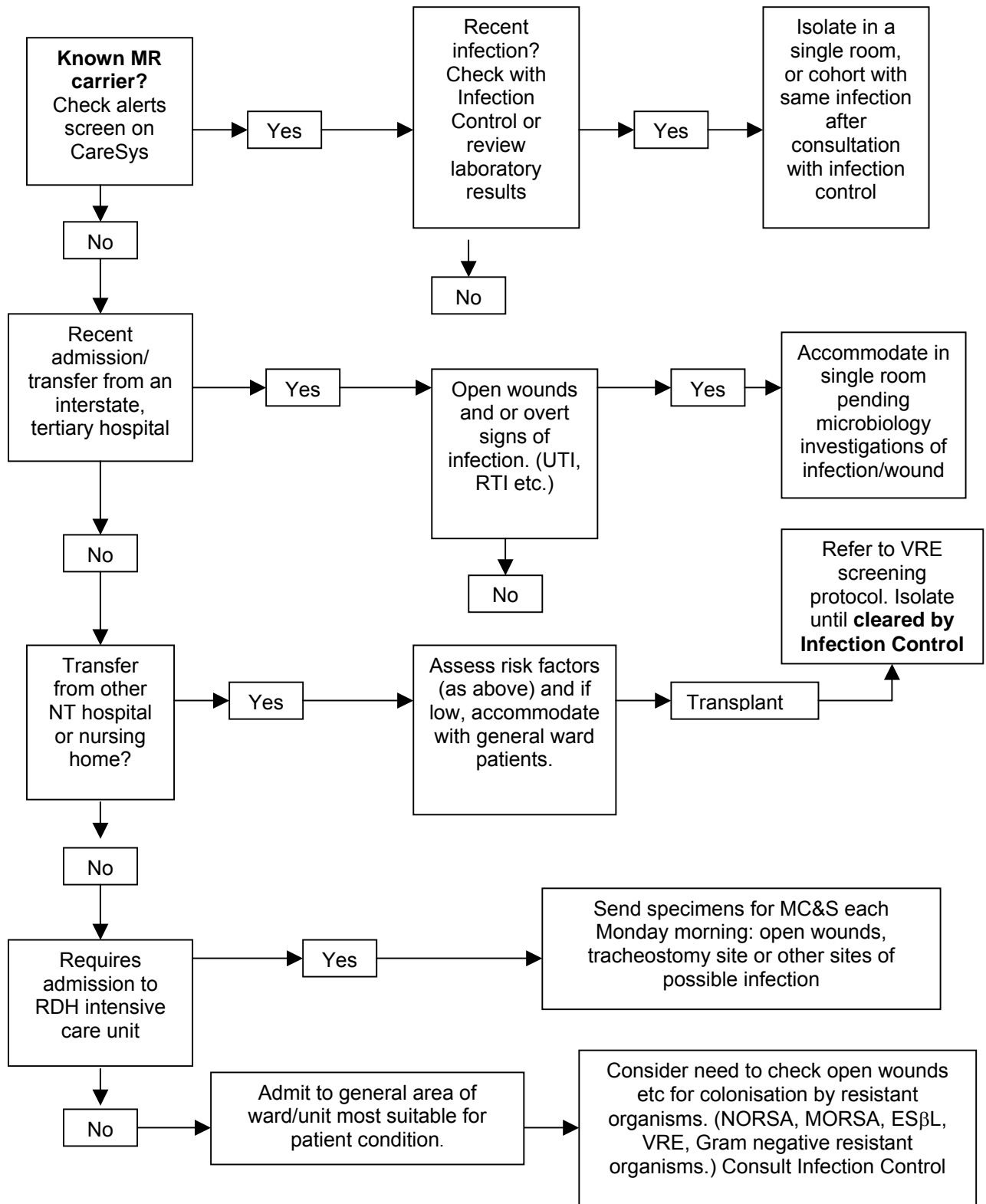
Condition	Optimal placement	Second choice	Third choice	Not acceptable
< 6 month old infant readmission No / or non-airborne infection.	SCN infected baby room including babies requiring ventilation. <u>Exclude</u> measles, RSV, chickenpox and pulmonary TB.	Ventilated baby: ICU if infected baby room occupied.	7B if critical care room operational.	Airborne transmissible diseases in SCN baby room.
> 6 month old infant Airborne or droplet spread infection (i.e., Chicken pox, measles, mumps, RSV, bronchiolitis etc)	Paediatric Isolation ward Single room or cohort by disease for air borne infections – TB, Chicken pox*, measles*. <i>* Arrange for patient care by staff known to be immune to a specific infectious disease.</i>	For ventilation: ICU (Or 7B if critical care room operational).		SCN
< 13-year-old child Clean surgery, or Clean condition	General Paediatric ward	Paediatric isolation if surgical procedure is secondary to a transmissible infection.		Adult ward.
< 13 old child GIT and other contact spread infection, including crusted scabies.	7B Paediatric Isolation.	Cohort in unit of general Paediatric ward as an overflow if necessary. <u>Exclude</u> measles, chickenpox and pulmonary TB.		Adult ward.
Child with airborne spread infection Measles Chicken pox Pulmonary TB	Negative pressure single room in 7B Paediatric isolation ward/cohort by disease in a shared room.			Adult ward unless with parent with same condition. (i.e., Pulmonary TB)
Child with resistant bacterial infection MORSA/NORSA ESBL VRE	Single room isolation in either of the paediatric wards / or cohort by disease in a shared room. SCN isolation room for SCN babies with contact spread infection.			Adult ward

24.1 Guidelines for the isolation or cohorting of clients with multi resistant (MR) bacterial infections (MRSA, ESBL, Gent resistant, multi resistant other)

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital acquired infection will be within limits set by RDH Infection Control Committee and ACHS.
Definitions/ Procedures	<p>Clients requiring admission to wards with current or prior history of MR infections should be assessed as per algorithm 2 on page 151.</p> <p>If single room accommodation is not available, cohort as necessary, however, the following points should be considered:</p> <ol style="list-style-type: none"> 1. Clients with a past history but without current evidence of infection or wounds should be screened and cleared by Infection Control ASAP. 2. Prior to Infection Control clearance, do not cohort with those who have an infection. If there is no other choice they may be grouped with clients who are not at risk of infection (who are not immunocompromised/suppressed, who do not have wounds, who are not debilitated etc.). 3. Whether in single or shared accommodation, contact precautions still apply for that client and the appropriate additional precaution card must be displayed. 4. Do not cohort clients with more than one MR organism (e.g., NORSAMORSA + Gentamicin Resistant) unless approved by Infection Control. 5. Do not cohort clients who have a past history of MR organisms and current open wounds with clients who currently have a MR wound or respiratory infection. <p>Any queries can be directed to Infection Control ph. 28045 / 28428 Mon – Fri. Clinical Microbiologist, Microbiology Registrar, or IFD Reg. should be consulted after hours and on weekends and public holidays.</p> <p>Multi resistant risk assessment and management plan for RDH</p> <p>Refer to algorithm 3</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure correct isolation precautions are being undertaken. • Infection Control reviews the effectiveness of isolation through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial isolation education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Infection Control reviews patients known to require isolation each weekday after referring to bed placements on CareCys to review correct isolation procedures.
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Algorithm 3: Multi resistant risk assessment and management plan for RDH



25 Renal patient protocol

Policy statement	Patients with renal disease will be managed as defined below in both the renal unit and general wards.
Objectives	Despite the chronic nature of their illness and regular invasive procedures, hospital acquired infections of renal patients will be within limits set by the infection control committee and ACHS clinical thresholds.
Definitions	Renal patient infection control protocol refer to table 17. The measures outlined are applicable to all other clinical units.
Scope and application	HCWs involved with the care of patients with renal disease.
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set be the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>.2004. Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. HCWs involved in the care of renal patients and especially those working in the renal unit and Nightcliff Dialysis centre have a responsibility to minimise hospital-acquired infections of renal patients. Senior Registered Nurses and the Renal Nurse Educator have a responsibility to provide ongoing education as well as to HCWs new to the Renal Unit. Infection Control has responsibility to provide surveillance of hospital-acquired infections.

Table 17: Renal patient infection control protocol

Infection control measure.	Rationale
All health care professionals and patient visitors are to perform hand hygiene on arrival in the ward, before seeing the person they are visiting.	Prevents bacteria from one area of the hospital being brought into the renal ward. Ensures visitors' hands are free of harmful bacteria before they have patient contact.
Staff to perform hand hygiene before and after patient / patient equipment contact, and aseptic task. <i>*Chlorhexidine/alcohol hand rub.</i>	Transient carriage of microorganisms on the hands of staff is the most likely cause of cross-infection.
Teach patients and visitors how and when to perform hand hygiene.	Improves patients understanding of how bacteria is spread and will limit damage if they handle their lines.
Gloves to be worn when there is a risk of contact with blood and body fluids.	Maintains standard precautions that are designed to limit the risk of occupational acquisition of a blood borne disease.
Sterile gloves to be worn for sterile procedures.	Unsterile / ward 'procedure' gloves are not suitable for sterile procedures.
Hand hygiene is to be performed before and after wearing gloves.	Gloves are not a substitute for hand washing.
Use a sterile technique for all invasive procedures including tunnelled line dressings.	Limits risk of contamination at time of accessing.
Peer review and observation of procedure technique ensures compliance with infection control measures.	Identifies obvious and possible breaches. (Criticism must be civilised and offered in a constructive, helpful manner).
Occlusive dressings on tunnelled line insertion sites to be dated and checked pre and post showering, on return to ward after trips outside, etc.	Lifting dressings provide direct access for microbial invasion.
All hospitalised renal patients to have a daily shower using Triclosan 1%. (Recommend to patients that they use Palmolive "Softwash"® containing Triclosan (available in supermarkets) for showering/bathing at home).	Decreases MORSA colonisation and dispersal levels among known carriers, reducing the risk of infecting their puncture sites and wounds. Reduces risk of MORSA / other microbe spread to non-infected patients.
Freshly laundered bed linen and patient clothing to be provided daily <u>at the time</u> the patient showers.	Providing clean linen/clothing immediately after shower prevents re-colonisation from soiled bed linen or clothing.
Each patient to have his/her own set of monitoring equipment - stethoscope, sphygmomanometer, cuff and thermometer, or be cleaned in between each patient.	Not sharing equipment between patients limits 'contact spread' of microorganisms. (Decontaminate water resistant cuffs with alcohol wipes i.e., <i>Isowipe</i> ®)
New renal patients (not colonised with MORSA) being admitted for fistula formation are to be admitted to a medical or surgical ward.	Minimises the risk of infection and enhances the likelihood of an optimal outcome.
Routine microbiological screening of nares and intact skin is not recommended, however MRSA screening prior to Tenckhoff catheter insertion (nares and site) is accepted.	Routine screening for colonisation does not improve the application of infection control measures, however all <u>infected sites</u> must be cultured for optimal patient management.

Table 17 : Renal patient infection control protocol (continued)

Patients to be checked on admission for evidence of scabies. Nurse initiated treatment to be implemented for uncomplicated cases. Crusted (Norwegian) scabies to be managed by Renal Services medical staff.	Untreated scabies leads to heavy skin colonisation / infection with <i>Staphylococcus aureus</i> and / or <i>Streptococcus gp A</i> . Prompt treatment decreases the risk of cross-infection/infestation of staff & other patients.
Renal dialysis machines and therapy chairs are to be cleaned and decontaminated between patient use. Refer to procedure 14 for cleaning of blood and body fluids.	Medical literature describes surfaces of machines and chairs as the source of cross-infection for blood borne diseases and various bacterial infections.
Hospitalised patients are to be freshly showered in Triclosan 1% and wearing clean clothing prior to dialysis or venous catheter insertion. Outpatients are to be educated to shower and wear clean clothing prior to attending for dialysis	Using a skin disinfectant to shower reduces bacterial levels. Freshly laundered clothing avoids the risk of re-colonisation from previously contaminated clothing.
Review profile / summary of renal patient microbiological findings with medical microbiology staff on a regular basis. (Infection Control is able to provide Renal Services with a detailed patient microbiology report for any given time period - weekly, monthly etc).	Medical microbiology staff are aware of all current sensitivity/resistance patterns of microorganisms causing infections in the hospital and are able to provide information and advice based on current trends.

26 Midwifery and Obstetrics

26.1 Blood borne viruses and breast feeding

Refer to 'RDH Breast Feeding Policy and Best Practice Guidelines'

26.2 Expressed breast milk

Refer to 'RDH Breast Feeding Policy and Best Practice Guidelines'

26.3 Hepatitis C and pregnant women and mothers

Refer to 'RDH Midwifery Clinical Guidelines'

26.4 Varicella – mothers & babies

Refer to 'RDH Obstetrics Practice Guidelines For Medical Staff'

27 Exposure injury management

Policy statement	Appropriate first aid, reporting, risk assessment, counselling, treatment and follow up will be performed for all exposure injuries as defined below.
Objectives	Appropriate management of exposure injuries will occur. The exposed person will receive prompt optimum treatment, counselling and follow up
Definitions/ Procedure	<p>The following body fluids pose a risk for blood borne virus transmission:</p> <ul style="list-style-type: none"> • Blood, serum, plasma, and all biological fluids visibly contaminated with blood. • Laboratory specimens that contain concentrated virus. • Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids • Uterine/vaginal secretions or semen <p>Occupational exposure is considered if one the above body fluids comes in contact or penetrates via:</p> <ul style="list-style-type: none"> • Percutaneous e.g., needle stick or scalpel • Non-intact skin. Skin integrity is considered compromised if there is evidence of chapped skin, dermatitis, abrasion or open wound. • Eye splash • Mucous membranes • Intact skin is not generally considered exposure. However if the exposure was to blood, and the circumstance suggests a higher volume of exposure (e.g., an extensive area of skin was exposed and/or prolonged contact with blood) the exposure management procedure should be followed. <p>Exposure management procedure</p> <p>The immediate management including first aid, risk assessment and consideration of PEP is considered a medical emergency in terms of timeliness and resource allocation.</p> <p><u>General instructions</u></p> <p>1. Basic first aid</p> <ul style="list-style-type: none"> • Wash needle sticks and cuts with soap and water after gently bleeding. • Flush splashes to the nose, mouth, or skin with copious amounts of water. • Irrigate eyes with clean tap water, sterile water for irrigation or sterile saline. • If required remove soiled clothes and place in plastic bag. Wash effected skin area with soap and water <u>thoroughly</u>. <p>2. Report incident</p> <ul style="list-style-type: none"> • All staff should report to immediate supervisor.

2a. Instructions to 'supervisor'

Arrange for source patient doctor to review the source patient, take bloods and complete appropriate section on green 'Biohazard injury treatment record'.

Immediately direct staff member to Emergency Department with 'Exposure Management Pack' and if known enter the source patient name and identification number or labels.

3. Present to Emergency Department

- Take the 'Exposure Management Pack' to Emergency Department for consultation with source patient name and identification number or labels if known.
- Describe the injury so that the Emergency doctor can determine the risk level of the event.
- If a needle stick state type of needle (hollow-bore or solid) or instrument causing injury, degree of blood, bloody fluid contamination on needle/ instrument from patient. Depth of injury, if bleeding occurred, what first aid was carried out.
- State your Hepatitis B immunisation history and whether you have ever had a blood test that demonstrated Hepatitis B immunity.
- Fill in Accident Report Form from the pack and send to supervisor.
- Contact Infection Control on 28045 as soon as possible (within 72 hours) to make an appointment with Infection Control.

3a. Information for Emergency Department Medical staff

If in doubt, during office hours contact Infection Control or Infectious Disease Registrar.

i) Fill out green Biohazard injury treatment record and file in the staff member's chart.

ii) Follow the guidelines for post exposure prophylaxis if required.

Remember

- a. If the source is unknown or Hepatitis B surface antigen (HBs) positive and the staff member is not immune or status unknown, Hepatitis B immunoglobulin is most effective if administered as soon as possible, and definitely within 72 hours. If the injury is high-risk exposure and the exposed persons Hepatitis B surface antibody (anti-HBs) is unknown the Clinical Microbiologist should be contacted to discuss the need for an urgent anti-HBs. If the anti-HBs result cannot be performed within 24 hours HBIG should be administered.
 - b. If the source of the exposure is known HIV positive notify Infectious Disease Physician on call immediately.
- iii. Pathology request forms are included in the pack, complete the details and ensure that you:
- a. Provide pre-test counselling and obtain verbal consent to have HIV, HBV and HCV testing. Collect appropriate tests as written on the staff biohazard injury pathology form (yellow).
 - b. Liaise with Clinical Nurse Manager, or after hours the Nursing Coordinator, or source patients Doctor to ensure the source, (if known) has the appropriate investigations undertaken **without delay**.

- c. Notify Infection Control on 28045. Leave type of injury, source patient and staff member details on answering machine if it is after hours.

iv). Discuss the risk of exposure and any precautions deemed necessary until cleared by further testing. As well as appropriate follow up.

Source Patients Doctor

If the source patients Doctor is the person involved then a second Doctor should arrange the following

1. Document the risk category and any known blood borne diseases on the '*Biohazard Injury Treatment Record*'. Inform the treating Doctor managing the staff member.
2. Provide pre-test counselling and obtain informed consent. Once counselled ask the source to sign '*Consent to Release Blood Test Results*'. The consent needs to be signed to release results.
3. Fill in (pink) 'Source Patient' blood test request form that is in this pack. Collect blood in gold serum tube for HIV, HBs, anti-HBs, HCV, syphilis (HTLV-1 if the source is from Katherine or southern region of NT).
4. Send specimen to laboratory

Note: In operating theatre an Anaesthetist may carry out this role. Operative consent covers blood taken for biohazard management during the peri operative period.

Post exposure prophylaxis

If the exposure is considered significant then post exposure prophylaxis (PEP) for HIV, Hepatitis B and Tetanus should be considered immediately.

HIV post exposure prophylaxis

- There is some evidence that taking PEP reduces the risk of transmission of HIV. If the exposed person elects to start PEP it is recommended it is started within 2 hours of exposure but can be within 72 hours. Refer to algorithm 4 on guidelines for commencing PEP.
- Depending on the risk assessment a basic regime or expanded regime of antiretroviral medication may be indicated. The starter packs are available in the Emergency Department and only have three days supply.
- Infectious Disease Registrar or Clinic 34 Medical Specialist must be consulted when commencing PEP. If after hours the on call medical Registrar can contact them via RDH switchboard.
- Anyone commencing PEP must see Infectious Disease Registrar or Clinic 34 within 72 hours. This can be arranged direct or through Infection Control, ring 28045 or page the Nursing Director of Infection Control.
- Several items need to be discussed before a staff member decides to start PEP. These include, lack of data, 4 week course, high rate of side effects and possibility of pregnancy. These and others are entered into more detail on the PEP information sheet. The decision of the exposed

person to commence or decline PEP needs to be documented in the clinical notes.

Hepatitis B post exposure prophylaxis

- If the source is unknown or HBs positive and the staff member is not immune or status unknown, Hepatitis B immunoglobulin is most effective if administered as soon as possible, and definitely within 72 hours. If the injury is high-risk exposure and the exposed persons anti-HBs is unknown the Clinical Microbiologist should be contacted to discuss the need for an urgent anti-HBs. If the anti-HBs result cannot be performed within 24 hours HBIG should be administered.
- If the source is unknown or HBs positive and the staff member is not immune, Hepatitis B immunoglobulin is most effective if administered as soon as possible, and definitely within 72 hours.
- If Hepatitis B Immunoglobulin is thought necessary, a Hepatitis B vaccination course should also be commenced immediately, with booster doses at 1 and 6 months. Inform Infection Control on 28045 to arrange ongoing management.

Hepatitis C post exposure prophylaxis

- There is no proven effective post exposure prophylaxis for persons exposed to Hepatitis C. Inform Infection Control on 28045 to arrange ongoing management. The exposed person must be referred to the Liver Clinic for an appointment within 2 weeks of exposure.

Syphilis post exposure prophylaxis

- If the source is positive for syphilis the staff member will be referred to Infectious Disease Registrar or Clinic 34 via Infection Control. If the exposure is considered significant and the source infectious, a single dose of IM Benzathine penicillin 2.4 mega units is recommended. Follow up at 6 weeks.

Tetanus post exposure prophylaxis

- If the exposure involves an injury from an object that may be contaminated with soil or dust, tetanus prophylaxis should be considered. For full discussion on the use and dose refer to the Australian Immunisation Handbook 8th edition.

HTLV 1 post exposure prophylaxis

No recognised regime for PEP. Refer to Infectious Disease Physician for exposure management.

Post exposure screening

For low risk exposures routine HIV, HCV, Syphilis and HBV testing is performed at 3 months. For high risk exposure from a source with HIV, HBV, HCV, syphilis and HTLV1 additional tests and follow up are performed as on following page:

(*When PEP initiated)

Baseline tests	Anti-HIV, HB and anti, HBC, HCV, syphilis serology (STS) HTLV1 if required. *FBE, *U&E, *LFT
2 weeks	*FBE, *LFT
4 weeks	*FBE, *U&E, *LFT and *anti-HIV
6 weeks	HBs (if baseline HBs non-reactive), anti HCV, STS (If source RPR positive) and anti-HIV, and *FBE, If source HCV positive then LFT, HCV NAA
12 weeks	HBs (if baseline anti-HBs non reactive), anti HCV, STS (If source RPR positive) and anti-HIV
26 weeks	HBs (if baseline HBs non reactive), anti HCV, STS (If source RPR positive) and anti-HIV
1 year	HBs, anti HBs (6/12 post immunisation check), anti HCV, STS (if source RPR positive), anti-HIV

Post exposure risks

Risk of HIV infection from occupational exposure

- Overall risk from a needle stick injury from a known HIV positive source has been estimated at 0.3%. Other factors such as severity of exposure and viral load of the source affect the risk of transmission.
- Overall risk of mucous membrane exposure from a known HIV positive source has been estimated at 0.9% (9 in 10 000).
- Although there have been cases of HIV transmission following skin exposure with infected blood the risk is extremely low. No health care workers enrolled in prospective studies have seroconverted after skin exposures.

Hepatitis B virus

- Transmission rates from a source who is HBV positive is about 6–30%, particularly if HBV ‘e’ antigen positive.

Hepatitis C virus

- The risk of transmission from a HCV positive source is about 3–10%.

Post exposure precautions

If it is demonstrated the staff member has had significant exposure to a blood borne pathogen, they:

- Should not donate blood, semen, organs or tissue for six months.
- Should not share implements that may be contaminated with even small amounts of blood (e.g., razors, toothbrushes).
- HIV, HCV and HBV exposures will need to practice safe sex for a six-month period.
- HCWs may be excluded from exposure prone procedures until cleared. Refer to ‘Management of Health Care Workers infected with HIV, HBV or HCV’.

Pre-test counselling for source person

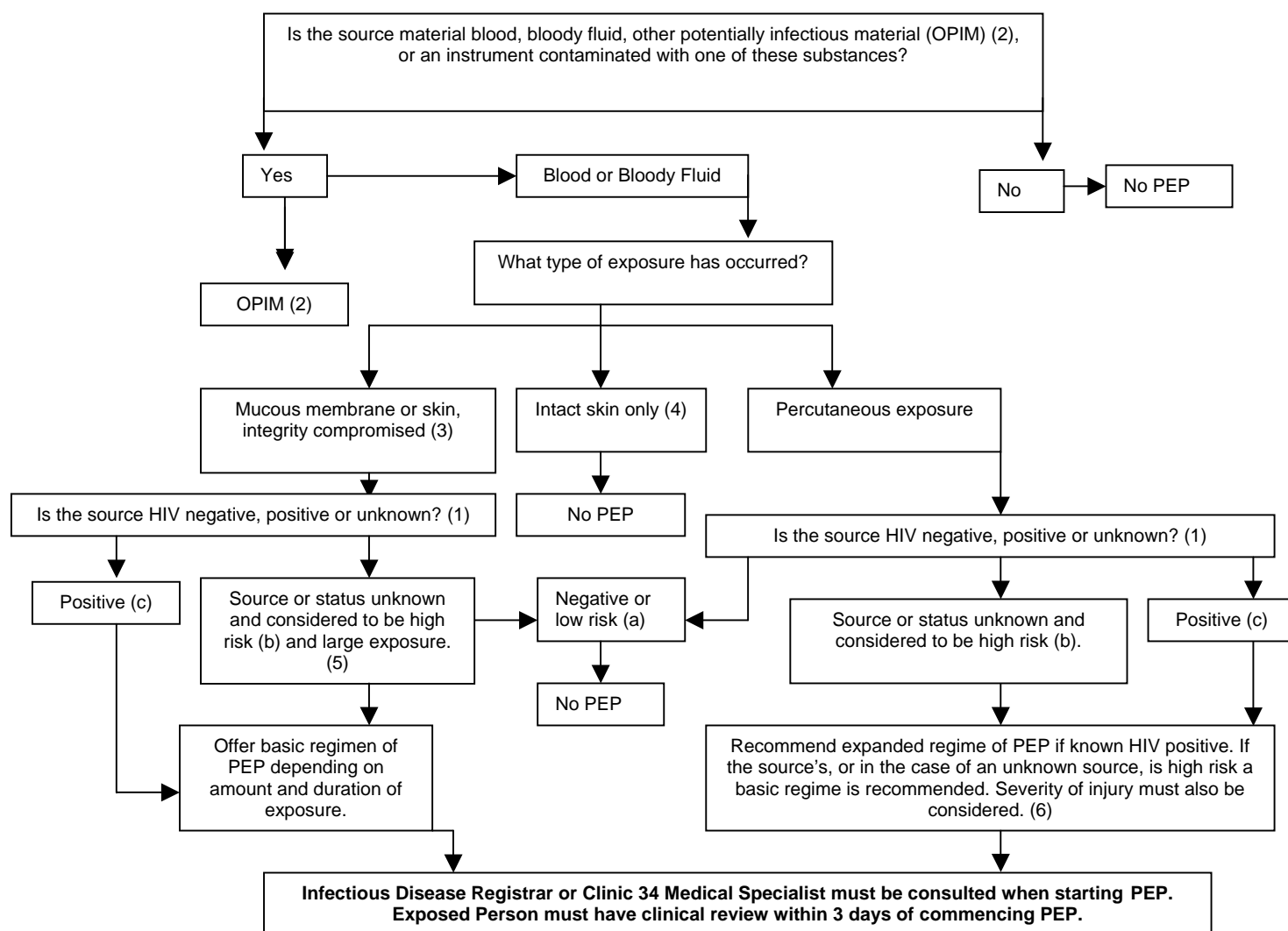
Pre-test counselling is aimed at providing sufficient information to obtain informed consent without distressing the patient. To achieve this the following points need to be discussed:

- Low risk in general population. Describe who is at higher risk but stress

	<p>that the majority of people who have participated in activities that place them at risk the vast majority <u>don't</u> have HIV:</p> <ul style="list-style-type: none"> • Sex with a homosexual man • Intravenous drug user or having sex with someone who has shared needles • Unprotected sex with someone from high prevalence country e.g., South East Asia • Blood transfusions in the 1980's, • Invasive medical / dental procedures overseas (injections etc) • Sex with a prostitute • Blood test: looking for antibody to virus which causes AIDS • Difference between HIV and AIDS, Treatments available for HIV/AIDS. • Follow-up: Arrange to give results in person. Always ask that they come to the hospital to receive results. It is hospital procedure to arrange an appointment. (It may be possible to give a negative result via phone but the person should not be expecting phone contact). <p>Consent: It is not necessary to have written consent but consent must be informed, therefore use a translator if necessary to ensure informed consent is obtained.</p> <p>If they are in a risk group, talk about "window period" – But otherwise not necessary. Do not talk about Western blots, PCR tests etc</p> <p>Case management strategies</p> <p>Public clients:</p> <ul style="list-style-type: none"> • Police, SJAB, and other members of the general public are provided with primary care of their biohazard exposure by emergency department. • Blood samples are taken on presentation at emergency department and the same first aid and treatment protocol is to be followed. • The source, if they have been brought in by police or ambulance should be attended by the Emergency Department Doctor and follow the same procedure as mentioned above for inpatients. • Test results are to be forwarded to their GP of choice for ongoing management. They will be referred to Clinic 34 or Infectious Disease Registrar if they are considered to be high risk. <p><i>Devised using</i></p> <ul style="list-style-type: none"> • CDNA Infection Control Guidelines January 2004, • ANCAHRD Management of exposure to blood/body fluids in a health care setting September 2002 • D.Weber, W. Rutala, E. Joseph <i>Management of healthcare workers exposed to blood borne pathogens</i>. Uptodate 2004. • Southern Queensland Infection Control Network Infection Control Network. <i>Infection Control manual</i>. 2001 <p>Reviewed by Dr Brian Hughes Clinic 34 Medical Specialist Dr Gary Lum Director of Pathology</p>
Scope and application	All staff
Review cycle and responsibilities	***** Policy is due to be replaced in January 2009 *****
Associated	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control</i>

legislation and other strategic documentation	<p><i>guidelines for the prevention of transmission of infectious diseases in the health care setting.</i> January 2004.</p> <ul style="list-style-type: none"> • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • NHMRC <i>the Australian immunisation Handbook</i> 8th edition 2003. • ANCAHRD <i>Management of exposure to blood/body fluids in a health care setting.</i> Bulletin No16 September 2002. • Centres for Disease Control Updated U.S Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for post exposure prophylaxis <i>Morbidity and mortality Report</i> Vol 50/No.RR-11 2001
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Staff must provide counselling and gain consent prior to the collection of blood for HIV for both the source and exposed person. • If an exposed person commences HIV PEP they must be referred to a specialist HIV physician within 72 hours. • First aid, risk assessment and consideration of PEP is considered a medical emergency in terms of timeliness and resource allocation. <p>Infection Control are responsible for</p> <ul style="list-style-type: none"> • Maintaining a register of occupational exposures. • Receiving results from serology and reviewing these with either the ED doctor or the ID Registrar. • Assisting / arranging follow-up investigations when indicated by type of inoculum and other identified risk factors. • Providing backup counselling for concerned recipients of exposures. • Investigating how accidents occur and initiating remedial action to reduce incidence. • Providing Infection Control Committee with monthly report on biohazard injuries and participating in determining measures to counteract adverse outcomes. • Infection Control provides education regarding exposure management to every employee at orientation. Further education is provided in response to a specific incident or failing to meet limits set by the Infection Control Committee

Algorithm 4: HIV Postexposure Prophylaxis (PEP) After Occupational Exposure*



*This algorithm is intended as a guide regarding the initial decisions about commencing PEP. Infectious Disease Specialist or Clinic 34 Medical Specialist must be consulted when starting PEP. After hours they can be contacted via switch.

(1a) A source is considered negative for HIV infection if there is laboratory documentation of a negative HIV blood test from a specimen collected at or near the time of exposure. With no clinical signs of a retro-viral type illness.

(1b) If the source is unidentifiable (e.g., exposure from discarded needle), the setting where exposure occurred determines if the injury is 'high risk'. The source is considered in a high risk category if they have: retro-virus type illness, sex with a homosexual man, shared IV needles or sex with someone who has, blood transfusion in the 1980's, Sex with someone from a high prevalence country i.e., South East Asia and Africa, or sex with a prostitute.

(1c) A source is considered infected with HIV if there has been a positive laboratory result for HIV antibody, HIV PCR or HIV p24 antigen or physician diagnosed AIDS.

(2) OPIM encompasses semen or vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, pericardial or amniotic fluids. OPIM must be evaluated on a case-by-case basis. In general, these body substances are considered low risk for transmission in health care settings.

(3) Skin integrity is considered compromised if there is evidence of chapped skin, dermatitis, abrasion or open wound.

(4) Contact with skin is not normally considered a risk for HIV transmission. However if the exposure was to blood, and the circumstance suggests a higher volume of exposure (e.g., an extensive area of skin was exposed and/or prolonged contact with blood) risk for HIV transmission should be considered.

(5) Large exposure is considered several drops, major blood splash and/or longer duration (i.e., several minutes or more).

(6) Less severe is considered to be solid needle or superficial scratch. Severe is considered large-bore hollow needle, deep puncture, visible blood on device, or needle used in source patients artery or vein. Severe injuries contribute to an elevated risk of transmission.

Adapted from *Management of healthcare workers exposed to blood borne pathogens*. 12.1 December 2003 www.uptodate.com

28 Client and HCW safety

Policy statement	HCWs will be provided with protective measures including, personal protective equipment and immunisation. HCWs are required to be fit to work as defined below
Objectives	To provide a safe work place in accordance with the Work Health act and RDH occupational Health and Safety policy.
Definitions/ Protocol	<p>Immunisation, protective equipment, standard and additional precautions, Exposure management and other policies in this manual combine to provide protection for HCWs. (Refer to appropriate section for further information)</p> <p>If you have an Infection</p> <ul style="list-style-type: none"> • Report illness to your supervisor. • Seek medical advice from your own doctor first then RDH Emergency Department where necessary. You may need to provide a formal medical clearance prior to returning to normal duties/work area. <p>Conditions/circumstances requiring a formal medical clearance to return to work includes:</p> <ul style="list-style-type: none"> • Skin sepsis, (i.e., boils, infected dermatitis, paronychia) • TB and other chest infections. • Streptococcal throat infections • All specific airborne infectious diseases (measles, chicken pox, mumps etc) • Herpes simplex • Conjunctivitis • Any condition requiring additional precautions, i.e., Salmonella, NORSA, MORSA, etc <p>Specific blood borne diseases</p> <p>Clinical staff are required to be aware of their HIV, HBV and HCV status if they undertake or will be undertaking exposure prone procedures or have a significant occupational [or non-occupational] exposure to blood or body substances. 12 monthly testing is a responsibility of people undertaking exposure prone procedures.</p> <p>Health Care Workers, who are carriers of blood borne infectious diseases, need to be aware that they are obliged to ensure the safety of others in the workplace both under the Occupational Health, Safety and Welfare Act 1986 and Common Law. They are advised not to work in areas where it is possible for the disease to be transmitted to others. High-risk areas include, but are not limited to, operating theatres, renal dialysis units, intensive care units, special care nurseries and emergency departments. Consult Infectious Diseases Physician for specific work health advice relevant to your condition.</p> <p>Herpes simplex lesions</p> <p>Staff with herpes simplex lesions are not to have contact with immuno-compromised patients, neonatal/paediatric patients, antenatal patients from the eight month and obstetric patients. Vesicles must be dry before returning to work in these areas. Staff with a herpetic whitlow or hand lesion must not have patient contact until lesion has healed.</p>

	<p>Infestations</p> <p>At times, there have been extensive outbreaks of scabies infestations among staff who have patient contact. It is usually difficult to identify the primary source as it can take between four to six weeks after infestation before signs and symptoms develop in primary infestations. People who have had prior exposure may develop signs and symptoms of re-infestation within 24 to 48 hours.</p> <p>Early diagnosis is essential. Treatment should be carried out as per the directions provided with the scabicide. Successful eradication includes treating other close family contacts and personal clothing/bedding. Linen and personal clothing worn within last 5 days should be hot washed, dried and seams ironed with a hot iron to ensure all eggs are destroyed. Alternative is to seal items in a plastic bag and leave for 5 days. Soft furnishings need to be sprayed with surface insecticide and aired before re-use. Notify Infection Control of confirmed cases of scabies among staff members as soon as possible.</p> <p>Wear and tear to hands</p> <p>Intact skin is a very good barrier to infection, but when damaged, it is not sufficient protection to wear latex (procedure) gloves, as there is an unacceptable (>2%) chance of pin-holes existing in the gloves, which could result in undetected exposure to infection. Minor skin breaches on hands must be totally covered by a waterproof, occlusive dressing and gloves worn to cover dressing. Extensive skin damage or any infected lesions on hands requires exclusion from clinical duties. Also see section on Herpes simplex infections including herpes paronychia or whitlow</p> <p>Immunosuppressed HCWs</p> <p>are at risk of acquiring a health care associated infection. Depending of the extent of the immunosuppression it may be necessary to exclude the HCW from clinical contact.</p> <p>Pregnant HCWs</p> <p>Both the HCW and employer have an obligation to reduce risks to the foetus. Adherence to standard and additional precautions, up to date immunisations^a and high standards of general hygiene should protect HCWs. Pregnant HCWs who have no immunity should not look after patients with chicken pox or shingles. Pregnant HCWs should also avoid contact with patients infected with Parvovirus and Pertussis. In practice this is difficult because infectivity usually ceases before evidence of Parvovirus infection.</p> <p>Adapted from:</p> <ul style="list-style-type: none"> • Infection Control Standards 2001 • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004
Scope and application	Client and HCW safety applies to the Employer, employees and Infection Control.
Review cycle and responsibilities	Due to be reviewed 2009 unless prior need arises. In response to a specific incident or failing to meet limits set be the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • NHMRC. <i>The Australian Immunisation Handbook</i>, 9th edition. 2008

	<ul style="list-style-type: none"> • RDH Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000.
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

^a For immunisation advice for pregnant women refer to The Australian Immunisation Handbook, 9th edition. (NHMRC 2003)

28.1 Management of health care workers infected with HIV, HBV or HCV

Policy statement	It is the responsibility of health care workers (HCWs) to be aware of their infection status for HIV, HBV and HCV. HCWs are to take every reasonable precaution to minimise the risk of transmitting the infections to patients/co-workers.
Objectives	Patients in the health care system will be protected from the risk of acquiring blood borne viral diseases as a consequence of blood-to-blood contact (or body fluids contaminated with blood).
Definitions	<p>HCWs undertaking exposure-prone procedures have an ongoing responsibility to know their HIV, Hepatitis B and C status and, on the basis of confirmed test results, should not perform any exposure prone procedure in which there is a risk of transmission. Where there is any uncertainty about the level of risk involved, individuals will be assessed by the registration board of Northern Territory or an expert panel on a case-by-case basis to determine their continuing participation or modification of work practices</p> <p>It is mandatory that HIV, Hepatitis B or C infected HCWs immediately following diagnosis be assessed by a specialist physician for a recommendation regarding their continued involvement in direct client care.</p> <p>Assessment of the capacity of HIV, Hepatitis B or C infected HCWs to continue all or part of their duties should be based on an assessment of transmission risk consistent with this policy. A proper professional assessment must be made of the risks, if any, posed to patients on a case by case basis.</p> <p>It is not advisable for a HIV infected HCW who has a significant degree of immune deficiency and active opportunistic infections to be involved in the care of immunocompromised patients, including neonates. The reason for exclusion from usual duties at such a time relates to the potential risk of transmission of secondary infections from the HCW to patients with defective immune systems. For the HCW's safety it is not advisable to be involved with patients with certain communicable disease (eg tuberculosis, varicella).</p> <p>In the absence of any clear exposure to blood or hazardous body fluids, patients/co-workers are at an extremely low risk of acquiring blood borne infections.</p> <p>HCWs are not obliged to report their HIV, Hepatitis B or C status to the Department but any action by the HCW should be consistent with the reporting requirements for illnesses or impairments likely to affect their professional practice.</p> <p><small>Adapted from: THS Policy: HIV, HBV and HCV infected workers. Original by Dr K Pang. (1993/94)</small></p>
Scope and application	Any HCWs involved in exposure prone procedures or HIV, HCV or HBV
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; <i>Duties of Workers</i>. Territory Health Services policy <i>HIV, Hepatitis B or C infected health</i>

	<p><i>care workers.</i></p> <ul style="list-style-type: none"> • Nursing and Midwifery Board of the Northern Territory Position Statement, <i>Nurses and Midwives Infected with blood borne viruses</i>
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • Confidentiality for HIV, Hepatitis B or C infected HCWs must be maintained. • Health care workers undertaking exposure prone procedures are expected to know their infectious status for transmissible blood borne diseases. The Communicable Disease Network of Australia (CDNA) has recommended yearly assessment. • Infection Control is responsible for standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ Exposure Prone Procedures are characterised by the potential for direct contact between the skin (usually fingers or thumb) of the HCW and sharp surgical instruments or needles in body cavities or in poorly visualised or confined body sites (including the mouth).

Examples of exposure prone procedures are:

*Surgical entry into tissues, cavities or organs for diagnostic or therapeutic purposes, including operating theatre procedures and any other vascular access procedures (excluding venipuncture).

*Repair of major traumatic injuries.

*Vaginal or Caesarean deliveries or other obstetric invasive procedures during which bleeding may occur.

*Manipulation, cutting or removal of any oral or perioral tissue, including tooth structures, during which bleeding may occur.

Management of infectious diseases

Viral Infections

29.1 Cytomegalovirus infection

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Transmission from patient to patient or patient to HCW will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology Disease is caused by infection with human cytomegalovirus (CMV), which is a herpes virus.</p> <p>Clinical manifestations In most healthy adults, CMV infection is sub clinical, but occasionally CMV produces illness similar to glandular fever. If pregnant women become infected there is a small but significant possibility of foetal damage¹. CMV (especially primary infection) can cause severe and life-threatening problems in immunosuppressed patients². Most neonatal infections are asymptomatic.</p> <p>Occurrence CMV is likely to be encountered both in the community and in hospitals. Any age group may acquire the virus. All people, irrespective of age, gender or illness, can excrete virus. About 40% of adults in developed countries and almost 100% of the adult population in developing countries are seropositive³. Thirty per cent of women of childbearing age in Australia are seronegative for CMV and thus susceptible to primary CMV infection in pregnancy⁴. Generally, CMV infection in HCWs, even those working in high-risk areas such as neonatal units, transplant units and those caring for HIV-positive patients, is not significantly more common than that in the general community⁵. After primary infection, young children excrete CMV in urine and saliva in larger amounts and for longer periods than do adults. There is a high incidence of asymptomatic excretion of CMV among infants and toddlers. For this reason, isolation of children known to be excreting CMV is not recommended. To avoid CMV infection, washing hands after all patient contact and after contact with urine and saliva is essential. Avoidance of direct contact with saliva (e.g., kissing toddlers on the mouth) is also important.</p> <p>Source of infection Virus is excreted in urine and saliva for many months after primary infection, and may be shed continually or intermittently for many years by symptomatic patients or asymptomatic carriers. CMV is also excreted in milk, cervical secretions and semen, and may be present in blood. After perinatal or neonatal infection, virus may be shed for up to six years³. Adults tend to excrete the virus for shorter periods but latent infection is common.</p>

	<p><u>Transmission</u></p> <p>Mode of transmission</p> <p>CMV is transmitted by mucosal contact with infected tissues and body fluids. The foetus may be infected in utero or the infant may acquire the disease perinatally. CMV-seronegative women who care for children over the age of two years have a lower risk of infection than when caring for younger children⁶</p> <p>Risk of acquisition</p> <p>All seronegative HCWs are at risk of infection, although most infections are asymptomatic. However, if the HCW is pregnant, consequences to the fetus may be severe. The highest-risk groups for serious disease caused by CMV are: infants born to carrier mothers, patients with debilitating diseases, those being treated with immunosuppressive drugs and those with congenital or acquired immunodeficiency disorders.</p> <p>Patients</p> <p>Because there are difficulties in detecting excretors, and because simple hygiene and <u>standard precautions</u> prevent infection of HCWs and patients, the emphasis for transmission control is hygiene rather than on screening of patients.</p> <p>Health care workers</p> <p>Immunodeficient and pregnant HCWs should be informed of the risks of CMV infection, and advised to avoid direct and prolonged contact with CMV infection, (e.g., where a person is known to be excreting CMV). However, it is not practicable to identify all such patients, as only a small proportion of antibody-positive patients excrete the virus.</p> <p>Infection of HCWs with CMV is largely preventable by applying standard precautions (refer to Section 1), including the use of gloves and regular hand washing. Pregnant HCWs and those who work in childcare units will be provided with an opportunity to determine their susceptibility by antibody testing. They should be counselled about hygiene and permitted, but not required, to minimise contact with known CMV-infected patients. CMV-seronegative women who care for children over the age of two years have a lower risk of infection⁷. Rostering seronegative pregnant employees to care for older children may therefore further minimize their risk. CMV immunoglobulin is available for the prevention and treatment of CMV infection in certain individuals at high-risk of infection. However, its value is unclear.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.

Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ Hatherley in *Infection Control Guidelines (ICG)* 2004, 28.1.1)

² de Jong et al in *ICG* 2004, 28.1.1

³ Chin *ICG* 2004, 28.1.1

⁴ Sfameni et al in *ICG* 2004, 28.1.1

⁵ Demmler et al in *ICG* 2004, 28.1.1

⁶ Adler in *ICG* 2004, 28.1.2

⁷ Pass et al, Bale et al in *ICG* 2004, 28.1.3

29.2 Hepatitis A

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Transmission from patient to patient or patient to HCW will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology Disease is an acute hepatitis caused by the Hepatitis A virus (HAV).</p> <p>Clinical manifestations Initial symptoms include fever, lethargy, anorexia, nausea and abdominal pain, usually followed within a few days by jaundice. Incubation is 15–50 days depending on the dose (average 28–30 days). Many infections, particularly in children, are asymptomatic and are only diagnosed by laboratory testing. The disease ranges from a mild illness lasting a few weeks to, in rare cases, a severely disabling disease lasting several months. Although severity of symptoms increase with age, the mortality rate is low (< 1/1000) and patients usually recover without sequelae or recurrence of disease. In general complete recovery takes several months¹.</p> <p>Occurrence HAV is a hepatotropic virus. The disease is likely to be encountered both in the community and in hospitals and may occur as sporadic cases or epidemics.</p> <p><u>Transmission</u></p> <p>Source of infection Patients excrete the virus and are infectious during the incubation period and for about a week after jaundice presents. Infants may excrete the virus for up to six months.</p> <p>Mode of transmission Transmission is person-to-person by the faecal–oral route, and through food and water contaminated by human faecal material². Rare cases of transmission through blood or blood products have been reported³.</p> <p>Risk of acquisition Susceptibility to HAV is universal, and natural infection is believed to confer immunity for life.</p> <p><u>Management</u></p> <p>Patients Patients suffering from suspected or confirmed HAV, who are faecally continent, must be nursed with <u>standard precautions</u> (refer to section 1). If they are incontinent or have an altered mental state or poor hygiene, a separate room with facilities (including toilets) that are not shared with other patients is required. <u>Additional precautions</u> (contact transmission) must be observed with such patients (refer to section 2). Attention to hand washing for HCWs and patients is essential. Immunisation with hepatitis A vaccine is recommended for some individuals. Refer to NHMRC <i>The Australian Immunisation Handbook</i> 8th edition 2003.</p> <p>Health care workers HCWs infected with HAV must either take sick leave or be rostered to avoid contact with nonimmune patients and HCWs, as appropriate. Even though standard precautions should be used at all times, pre-</p>

	<p>employment hepatitis immunisation is recommended is for all HCWs who attend paediatric patients or attend rural and remote indigenous communities. Refer to NHMRC <i>The Australian Immunisation Handbook</i> 8th edition 2003</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008 • NHMRC <i>The Australian Immunisation Handbook</i> 9th edition 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • HCWs are responsible to be up to date with their immunisations. At commencement of employment they can book into the staff immunisation clinic on 27885 if immunisations are required or status unknown

¹ Chin in *ICG* 2004, 28.3.1

² Rosenblum et al, Balayan et al in *ICG* 2004 28.3.2

³ Lemon in *ICG* 2004 28.3.2

29.3 Hepatitis B

Policy Statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Transmission from patient to patient or patient to HCW will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology Disease is caused by the Hepatitis B virus (HBV).</p> <p>Clinical manifestations HBV is a hepatotropic virus and causes an acute hepatitis after an incubation period that ranges between six weeks and six months. Disease onset is often insidious, with symptoms including anorexia, nausea, vomiting, abdominal discomfort or pain, rash or joint pain. Fever does not always occur, but jaundice often presents later. Following acute disease most people recover, the mortality rate being about 1% in hospitalised patients. Presentation of infection ranges from sub clinical, which can be diagnosed only by laboratory tests, to fulminant liver disease with necrosis and death.</p> <p>Occurrence As many as 10% of infected adults may continue to carry the virus in their blood for a long period of time, even a lifetime. Approximately 90% of infants who acquire the infection perinatally become chronic carriers. These carriers become a potential source of infection to others. Certain population groups have a higher than normal frequency of the carrier state: injecting drug users, chronic haemodialysis patients and those with chronic debilitating illness, (e.g., autoimmune disease and lymphoma) are more likely to become chronic carriers after acute infection than are immunocompetent people. Between 25% and 40% of carriers do not belong to recognised risk groups. Following the introduction of blood donor screening and immunisation for HBV, the frequency and risk of infection is diminishing.</p> <p><u>Transmission</u></p> <p>Source of infection People acutely or chronically infected with HBV, and who are seropositive for HBV surface antigen (HBs) may be infectious to others. The risk of transmission of HBV from carrier mothers to neonates, and from patients to nonimmune HCWs via needle stick injuries depends on the viral titre in the contaminant, and correlates with the presence or absence of HBV 'e' antigen (HBe) in the source patient. Estimates of infectivity range from 2% (HBe absent) to 40% (HBe present)¹. Blood from infected patients with titres of HBs below the threshold of laboratory detection is rarely infectious². Transmission of blood from HCWs to patients only occurs if an injury to the operator causes bleeding during a surgical or dental procedure. It has been estimated that about 1% of surgeons are infected with HBV. Refer to Section 28.1 for policy on HCWs infected with HBV.</p> <p>Mode of transmission HBV is transmitted in the health care setting by parenteral exposure to infected tissues, including blood or other body fluids. The virus may also be transmitted by exposure of mucous membranes, such as eyes, nose and mouth, to infected material.</p>

	<p>Risk of acquisition</p> <p>All people who are seronegative and have not been immunised against HBV or previously infected with HBV are at risk of infection. The rate of transmission by parenteral exposure to infected body tissues or fluids is variable.</p> <p><u>Management</u></p> <p>Patients</p> <p>Standard precautions (refer to section 1) must be used to minimise risk of exposure to HBV.</p> <p>The NHMRC recommended a universal HBV immunisation program for infants and adolescents and this program is now included in the NHMRC Australian Standard Vaccination Schedule³. This universal program is in addition to recommendations for selective HBV immunisation of specific groups: Refer to NHMRC <i>The Australian Immunisation Handbook</i> 8th edition 2003</p> <p>Health care workers</p> <p>HCWs will often encounter chronic carriers of HBV in health care establishments. All HCWs should therefore be immunised against HBV using the schedule outlined in <i>The Australian Immunisation Handbook</i> (NHMRC 2008).</p> <p>Before beginning employment if HCWs are in any doubt about previous infection or immunisation, they will in accordance with NHMRC recommendations, be offered HBV immunisation as soon as possible at the start of employment. Then should be tested for antibodies to HBsAg at three months after the third dose of vaccine. Ring immunisation clinic on 27885 if immunisation is required. Those who do not respond should be offered a fourth double dose of vaccine. They should be tested for antibodies to HBsAg at three months after the fourth double dose of vaccine. Persistent nonresponders will be informed about the need for HBIG within 72 hours of parenteral exposure to HBV.</p> <p>Refer to protocol for management of HCWs involved in exposure related incidents (refer to section 27). HCWs who perform exposure-prone procedures have an ongoing responsibility to know their HBV infectious status. Particular precautions apply to HCWs who are known to be acutely or chronically infected with HBV (refer to section 28.1).</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to Section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.

Associated legislation and other strategic documentation

- Communicable Disease Network of Australia (CDNA) *Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting*. January 2004
- Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers.
- Royal Darwin Hospital Policy and Instruction Manual *RDH Occupational Health and Safety Statement 3.21* 2000
- Australian Council on Healthcare Standards *Clinical Indicator Users' Manual* 2003
- NHMRC *The Australian Immunisation Handbook* 9th edition 2008.

Compliance and responsibilities

- Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
- The managers of each unit have a responsibility to ensure standard precautions are being undertaken.
- Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required.
- Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.
- HCWs who perform exposure-prone procedures have an ongoing responsibility to know their HBV infectious status.
- HCWs are responsible to be up to date with their immunisations. At commencement of employment they can book into the staff immunisation clinic on 27885 if immunisations are required or status unknown

¹ Alter et al, Gerberding, Werner and Grady in *ICG*, 2004 28.4.2

² Alter et al, Gerberding *ICG*, 2004 28.4.2

³ NHMRC 2000

29.4 Hepatitis C

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Transmission from patient to patient or patient to HCW will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology Disease is caused by infection with Hepatitis C virus (HCV). It was conclusively identified in 1989, and subsequent serological surveys have found that HCV is responsible for approximately 90% of all transfusion-related cases of non-A, non-B hepatitis¹.</p> <p>Clinical manifestations Although acute HCV infection is frequently asymptomatic, and fulminant HCV infection is rare, HCV causes chronic hepatitis in a high proportion of those infected. This may ultimately result in the development of chronic liver disease, cirrhosis and hepatocellular carcinoma².</p> <p>Occurrence In Australia over 160,000 diagnoses of HCV were reported by the end of 2000, with a further 16,566 diagnoses made to the end of 2001. The number of notifications over the period 1996 – 2000 has remained relatively stable in the range of 18,000 – 22,000 per year. Although there may be some duplicate reporting of Hepatitis C it is likely that many people remain undiagnosed and therefore not reported. Overall the male to female ratio of Hepatitis C notifications remains stable at 1.7:1. Approximately equal numbers of male and female cases are reported in the 15 – 19 years age group. Most recent estimates suggest that the incidence of newly acquired Hepatitis C Viral infections in Australia is between 10,000 and 11,000 cases per year³. Of the existing pool of past HCV infections, about 75% are thought to have a history of injecting drug use, with less than 20% having had a blood transfusion prior to mid-February 1990⁴ when screening was introduced. Occupational exposure and nonsterile tattooing practice account for a small proportion⁵.</p> <p><u>Transmission</u></p> <p>Source of infection Acutely and chronically infected people are infectious. Infectivity is thought to be related to viral titre.</p> <p>Mode of transmission In the health care setting, HCV may be transmitted by parenteral exposure to blood or other body fluids. Perinatal transmission has been recorded with risk of transmission related to viral load of the mother.</p> <p>Risk of acquisition Patient-to-patient transmission of HCV has been associated with endoscopic procedures, including endoscopic sphincterotomy⁶ (Tennenbaum et al in <i>ICG</i>, 2004), routine upper gastrointestinal endoscopy⁷ and colonoscopy Failure to comply with recommended cleaning and disinfection protocols has been evident in the majority of adequately investigated transmissions².</p>

	<p><u>Management</u></p> <p>Patients</p> <p><u>Standard precautions</u> (refer to section 1) are recommended as the principal means of preventing occupational spread of HCV. Adherence to standard precautions should provide adequate protection for HCWs.</p> <p>Health care workers</p> <p>Active immunisation is not available and there is no evidence that passive immunisation is effective.</p> <p>HCWs who perform exposure-prone procedures have an ongoing responsibility to know their HCV infectious status, which is best determined by antibody testing and associated supplementary tests.</p> <p>Assessment of any incident involving blood should include a review of the HCV status of the source individual and, if positive, the exposed person. Further information on HCWs infected with HCV and other blood borne viruses is given in section 28.1.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>
Scope and Application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • HCWs who perform exposure-prone procedures have an ongoing responsibility to know their HCV infectious status

¹ Mandell et al in *ICG*, 2004

⁸ Tennenbaum et al, Bronowicki et al, Cowen et al in *ICG*, 2004

² Ivatson et al, Weimann et al, Colombo and Corini In *ICG*, 2004⁸

³ National Centre in HIV Epidemiology and Clinical Research 2001

⁴ Strasser et al in *ICG*, 2004

⁵ Kaldor et al in *ICG*, 2004

⁶ Tennenbaum et al in *ICG*, 2004

⁷ Crenn et al in *ICG* 2004

29.5 Human immunodeficiency virus/acquired immunodeficiency syndrome

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	<ul style="list-style-type: none"> • Hospital transmission will be avoided. • Risk minimization of exposure to blood and bloody fluids for HCWs. • Confidentiality, privacy and consent for testing following counselling will be applied.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Human Immunodeficiency Virus (HIV), a retrovirus. Two serologically distinct types, HIV1 and HIV2, have been recognised.</p> <p>Clinical manifestations</p> <p>HIV can cause a severe, life-threatening condition known as acquired immunodeficiency syndrome (AIDS). This syndrome represents the late clinical stage of infection with HIV, which most often results in progressive damage to the immune system, resulting in opportunistic infections and malignancies and other organ damage. Between two weeks and several months following infection, seroconversion may result in an acute self-limited illness, similar to mononucleosis, lasting for a week or two. Infected people may then be free of symptoms or clinical signs for many months or years before other clinical manifestations, including opportunistic infections, malignancies, systemic and neurological disorders appear¹.</p> <p>The concentration of HIV in the bloodstream is very high in the early stages of infection, including the 'window' period between acquisition of HIV and the seroconversion illness that typically occurs 2–4 weeks after contact². During this period the antibody test is negative, although tests for HIV DNA are positive. After the resolution of the seroconversion illness, HIV viral load decreases due to host immune responses and stabilises at a lower level. As immunodeficiency progresses and AIDS develops, the HIV viral load rises again. Viral load is also influenced by antiretroviral therapy. Most patients on combination antiretroviral therapy have a low HIV viral load.</p> <p>Occurrence</p> <p>During 2000, it was estimated that, after adjustment for reporting delay, there were 206 diagnosed cases of AIDS in Australia, and 123 deaths following AIDS. In addition, there were 723 new HIV diagnoses after adjustment for multiple reporting. Cumulatively to the end of 2000, there were 8564 diagnoses of AIDS, 6000 deaths following AIDS (adjusted for reporting delay) and 18,171 diagnoses of HIV infection (adjusted for multiple reporting)³.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Infectivity is believed to begin shortly after primary infection and continue throughout life, irrespective of whether the patient is symptomatic.</p> <p>Mode of transmission</p> <p>HIV is a blood borne and sexually transmissible virus. HIV may be transmitted by direct contact with blood or other body fluids, through mucous membranes, non intact skin or through percutaneous injury. The risk of HIV transmission ranges from close to 100% in the transfusion of an HIV-infected unit of blood, to 0.1–3.0% per act of unprotected receptive anal</p>

intercourse, and 0.1–0.2% per act of unprotected receptive vaginal intercourse.

Risk of acquisition

Patients

There has been one series (involving four patients) of patient-to-patient transmission of HIV in a surgical setting⁴. It is believed that a breakdown of standard infection control procedures was involved.

Health care workers

The risk to HCWs of acquiring HIV in the course of their employment is very small.

In the occupational setting, blood is the single most important source of HIV infection, so only those exposed to blood are significantly at risk.

Exposure to blood through the percutaneous route is significantly more likely to result in transmission of HIV than via mucous membrane exposure.

Although a few episodes of HIV transmission after skin exposure have been documented, no HCWs enrolled in prospective studies have seroconverted after such an exposure. For a HCW, the average risk for HIV infection after a percutaneous needle stick injury with HIV-infected blood is estimated to be 0.3%⁵ and the risk associated with mucous membrane exposure is estimated to be about 0.09%⁶. The risk for transmission of HIV from patient to HCW clearly exceeds that of HCW to patient⁴. The risk to patients of contracting HIV through blood transfusion is exceedingly low; all blood for transfusion in Australia has been tested for HIV antibody since 1985, and there has been only one known case of transfusion acquired HIV since that time.

At the time of writing, there have been no known cases of HIV transmission from HCW to patient in Australia. Internationally, there have been only two documented series of HIV transmission from HCW to patient. One occurred in the United States, where six patients became infected with HIV from a Florida dentist². This transmission was considered to be the result of a lapse in infection control procedures. More recently, HIV transmission occurred in one patient following prolonged orthopaedic surgery in France⁷. No further cases of transmission of HIV from HCW to patient have been detected, despite look back studies of large numbers of patients who have been cared for by an HIV-infected HCW. Retrospective studies carried out for the United States Centers for Disease Control and Prevention (CDC) as of 1 January 1995, for patients of HIV-infected HCWs, indicate that of the 22,171 patients treated by 51 infected HCWs (29 dentists and dental students, 8 physicians and medical students, 13 surgeons or obstetricians and 1 podiatrist) no cases of transmission were documented from the infected HCW to the patient⁸.

A retrospective case–control study⁹ of HIV seroconversion in HCWs after percutaneous exposure to HIV-infected blood, from January 1988 to August 1994, investigated factors that influence the risk of HIV infection. In this study case HCWs had a documented occupational percutaneous exposure to HIV-infected blood, HIV seroconversion associated with the exposure and no other concurrent exposure to HIV. Control HCWs had a documented occupational percutaneous exposure to HIV infected blood, and were HIV seronegative at the time of exposure and at least six months later. Results indicated that for case HCWs, 94% of exposures were needle stick and 7% involved other sharp objects. For control HCWs, 91% of exposures were needle stick and 9% involved other sharp objects. The findings in this study indicate that an increased risk for HIV infection following percutaneous

exposures to HIV-infected blood was associated with the following factors:

- a larger quantity of blood, indicated by visible contamination of the device; or
- a procedure using a hollow bore needle directly placed in a vein or artery, or a deep injury; or
- blood from a source with terminal illness.

Management

Standard precautions (refer to section 1) are the primary basis for preventing HIV transmission.

Patients

Additional precautions for patients with HIV are required only for those patients with opportunistic infections such as infectious pulmonary tuberculosis.

Routine testing of patients for unidentified HIV is not recommended. Testing should be undertaken only on the basis of clinical assessment or where it is in the interests of both patients and HCWs. The provisions of confidentiality, privacy and consent for testing after counselling should be applied.

Health care workers

Use of standard precautions, needless devices and proper handling of sharps (refer to section 1 and 7) are aimed at reducing the risk of exposure to blood for HCWs

Routine testing of HCWs for unidentified HIV is not recommended. Testing should be undertaken only on the basis of clinical assessment or where it is in the interests of both patients and HCWs. The provisions of confidentiality, privacy and consent for testing after counselling should be applied.

HCWs undertaking exposure-prone procedures have an ongoing responsibility to know their HIV status and, on the basis of confirmed test results, should not perform any procedure in which there is a risk of HIV transmission. Where there is any uncertainty about the level of risk involved, individuals will be assessed by the registration board of Northern Territory or an expert panel on a case-by-case basis to determine their continuing participation or modification of work practices (refer to section 28.1).

The treatment provided to people involved in blood accidents (post exposure prophylaxis, or PEP) may also influence outcomes. In the case-control study described above, the use of zidovudine (ZDV) post exposure reduced the risk of HIV infection by approximately 79%⁹.

Simple measures such as washing blood out of eyes and mouth after accidental exposure may also reduce the risk of infection. It is now recommended that two or three antiretroviral drugs be administered as PEP to HCWs who have sustained a significant occupational exposure to HIV (CDC 1997b). On the basis of animal studies, it is generally considered that if ZDV is going to have maximal prophylactic benefit it should be given as soon as possible after the injury. Although animal studies suggest that PEP is probably not effective when started later than 24–36 hours postexposure, the interval after which there is no benefit in humans is unknown (CDC 1997b). All antiretroviral agents may cause side effects — mild, chiefly gastrointestinal, side effects are frequently reported by patients receiving PEP. More serious side effects such as nephrolithiasis, abnormal liver function and pancytopenia have been reported with the use of combination antiretroviral PEP. The decision to use antiretroviral PEP must be made promptly, in conjunction with a specialist HIV physician, and with the

	<p>consent of the affected person.</p> <p>Refer to section 27 exposure management.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to sections 10) and routine cleaning of the environment (refer to section 13) should be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • All staff are required to use standard precautions at all times. Standard precautions include methods designed to decrease the risk of exposure including needle less devices, correct sharp handling and use of protective equipment.

¹ Chin in ICG, 2004

² Ciesielski and Mettler in ICG, 2004

³ NCHECR 2001

⁴ Chant et al in ICG, 2004

⁵ Bell in ICG, 2004

⁶ Ippolito et al in ICG 2004

⁷ Lot et al in ICG, 2004

⁸ Robert et al in ICG, 2004

⁹ Henry and Campbell in ICG, 2004

29.6 HTLV-I (Human T-cell lymphotropic Virus type I)

Policy Statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Transmission from patient to patient or patient to health care workers (HCWs) will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology HTLV-I is human T-cell lymphotropic virus type I. It was the first human retrovirus to be discovered. HTLV-I is a distant relative of the human immunodeficiency viruses (HIV), which cause acquired immunodeficiency syndrome (AIDS). HTLV-I does <u>not</u> cause AIDS.</p> <p>Clinical manifestations Two diseases have been definitely associated with HTLV-I:</p> <ul style="list-style-type: none"> • adult T-cell leukaemia/lymphoma (ATLL). • HTLV-I associated myelopathy/tropical spastic paraparesis (HAM/TSP). <p>Only a very small proportion of HTLV-I carriers will actually develop disease. ATLL has been estimated to occur in only 2-4% of persons infected with HTLV-I and usually presents later on in life, with the peak incidence in the 60-69 year age group. HAM/TSP develops in less than 1% of HTLV-I infected persons.</p> <p>Other disorders are less clearly associated with HTLV-I; they include: opportunistic lung diseases, chronic lung diseases, certain cancers, eye inflammation, infective dermatitis and a chronic low-grade immunosuppression.</p> <p>Occurrence HTLV-I is endemic in many countries, principally Japan, the Caribbean and central Africa. It is also found in Iran, Iraq, southern India, China, the Seychelles, Papua New Guinea, Melanesia, the Solomon Islands and Australia.</p> <p>In Australia, the virus occurs in many Aboriginal populations, having been found as far apart as the Kimberley and Cape York, but its prevalence varies markedly. In Central Australia the prevalence of HTLV-I is estimated to be about 14%, compared to 4.7% in the Northern Territory cattle country, 0.5% in Darwin and close to zero in East Arnhem Land. In non-Aboriginal Australians the virus still appears to be extremely uncommon.</p> <p><u>Transmission</u></p> <p>Source of infection The presence of antibodies to HTLV-I indicates that a person is infected with the virus. Infection is lifelong.</p> <p>Mode of transmission Like other retroviruses, HTLV-I is a blood-borne virus. It can be transmitted from mother to child (primarily through breast feeding), by blood transfusion, sexual intercourse and by sharing contaminated needles. 20-50% of the babies born to infected mothers will become carriers. Intrauterine or perinatal transmission of HTLV-I accounts for 5% of infections. Sexual transmission appears to be more efficient from males to females than from females to males. HTLV-I has been isolated in semen. The virus cannot be transmitted through social contact with infected people such as hand</p>

	<p>shaking, hugging, kissing or drinking from the same glass.</p> <p><u>Risk of acquisition</u></p> <p><u>Patients</u></p> <p><u>Standard precautions</u> (refer to section 1) are recommended as the principal means of preventing occupational spread of HTLV-1. Adherence to standard precautions should provide adequate protection.</p> <p><u>Health care workers</u></p> <p>There has been one documented case of HTLV-I transmission occurring as a result of a needle-stick injury and in view of a higher prevalence of HTLV-I in some inland Aboriginal populations, HTLV-I antibodies are tested at baseline when needle-stick incidents are reported with clients from areas at high risk in the Northern Territory.</p> <p><u>Management</u></p> <p><u>Patients</u></p> <p>There is no treatment for chronic HTLV-I infection. Treatment of ATLL with conventional combination chemotherapy has generally proved disappointing. No specific treatment is known for HAM/TSP although antiviral therapies are being trialled.</p> <p>Transmission by breast milk can be prevented by bottle feeding infants of infected mothers. Persons infected with HTLV-I should refrain from donating blood, semen, body organs, or other tissues. In January 1993, the Australian Red Cross instituted universal screening of all blood donations for HTLV-I.</p> <p>An HTLV-I infected person should be advised to use condoms to help prevent sexual transmission to a negative partner. Male-infected, female-non-infected couples desiring pregnancy should be made aware of the finite risk of sexual transmission of HTLV-I during attempts at pregnancy and of the small risk for vertical transmission from mother to infant unrelated to breast-feeding.</p> <p><u>Health care workers</u></p> <p>Use of standard precautions, needless devices and proper handling of sharps (refer to section 1 and 7) are aimed at reducing the risk of exposure to blood for HCWs.</p> <p>HCWs caring for HTLV-I infected persons need only be concerned about percutaneous exposure to HTLV-I contaminated blood. Standard precautions, recommended for contact with all patients, are adequate to guard against HTLV-I transmission to health-care workers. There is currently no vaccine available. Post exposure prophylaxis is currently controversial but requires consideration following high-risk biohazard injuries. This can be discussed with Infectious Diseases Physician/Registrar.</p> <p><u>Instruments and environment</u></p> <p>Routine reprocessing of instruments and equipment (refer to sections 10) and routine cleaning of the environment (refer to section 13) must be employed. If you require further information about HTLV-I, contact the Centre for Disease Control in your district or Infection Control.</p> <p><small>Adapted from information Compiled by Sue Reid, Disease Control, Darwin.</small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident

	or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

29.7 Herpes Simplex Virus infection

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Transmission from patient to patient or patient to HCW will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Herpes Simplex Virus (HSV), a herpes virus. Two serotypes (HSV1 and HSV2) can be distinguished immunologically.</p> <p>Clinical manifestations</p> <p>Herpes Simplex Virus causes vesicular lesions of the oropharynx and of the genital area. It can occasionally cause lesions elsewhere, (e.g., finger, buttock) and in neonates and immunocompromised patients it may cause a generalised vesicular rash.</p> <p>Occurrence</p> <p>The virus is widespread in the community with 50–90% of adults having antibodies to HSV1¹. Infection with HSV1 usually occurs in childhood before the age of five years, and HSV2 infection usually begins after the start of sexual activity¹.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>The vesicular lesions contain infectious virus. Virus may also be present in saliva and in vaginal fluid even when vesicles are not present.</p> <p>Mode of transmission</p> <p>The virus can be transmitted by droplet spread, by direct contact and, indirectly, by fomites or by a third person.</p> <p>Risk of acquisition</p> <p>Susceptibility to primary infection is universal. Latent infection is common and may be reactivated by fever, intercurrent disease, trauma or physiological changes.</p> <p><u>Management</u></p> <p>Patients</p> <p><u>Additional precautions (contact transmission)</u> must be observed for patients with lesions that disseminate infectious virus.</p> <p>HCWs must wear gloves whenever contact is made with any herpetic lesion or with a patient's mouth or genital area, or when handling a patient with a vesicular rash. Where there is a risk of saliva being sprayed from the mouth, as in dental procedures, goggles and mask must also be worn.</p> <p>Health care workers</p> <p>HCWs with herpetic lesions must wear gloves and some other effective occlusive dressing when the lesions are vesicular (virus is not shed from crusted lesions). Covered lesions present minimal risk. HCWs who perform exposure-prone procedures² have an ongoing responsibility to know their HSV infectious status, which is best determined by antibody testing and associated confirmatory tests, and should avoid any invasive procedures while lesions are present.</p> <p>HCWs with vesicles that cannot be covered (as in oral herpes) will not come into contact with newborn babies or immunocompromised patients, and will be excluded from operating rooms and delivery suites.</p>

	<p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to sections 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • HCWs who perform exposure-prone procedures have an ongoing responsibility to know their HSV infectious status

¹ Chin in ICG, 2004

29.8 Infectious mononucleosis (glandular fever)

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Transmission from patient to patient or patient to HCW will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Epstein–Barr Virus (EBV), which is a human herpes virus.</p> <p>Clinical manifestations</p> <p>The disease is an acute illness. Typical clinical symptoms include fever and sore throat. Recovery normally occurs within a few weeks, but a small proportion of patients may take several months to recover fully.</p> <p>Occurrence</p> <p>About 80% of young adults are immune, having previously acquired infection asymptomatically. However, a proportion of HCWs, particularly those in the 18–25year age group, is susceptible to EBV infection.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>EBV is present in saliva and may be excreted during, or for a prolonged period (more than a year) following, either symptomatic or asymptomatic infection.</p> <p>Mode of transmission</p> <p>Close contact is usually required to transmit infection.</p> <p>Risk of acquisition</p> <p>All nonimmune people are at risk of infection. Most adults are immune, although a proportion of younger adults may be susceptible.</p> <p><u>Management</u></p> <p>Patients</p> <p>Standard precautions should be observed (refer to section 1).</p> <p>Health care workers</p> <p>HCWs must employ standard precautions. There is no need to restrict HCWs with active glandular fever from direct patient care.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to sections 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia,</small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the</i>

documentation	<p><i>health care setting</i>. January 2004</p> <ul style="list-style-type: none"> • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

29.9 Influenza

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with either Influenza type A or type B virus.</p> <p>Clinical manifestations</p> <p>Clinical symptoms include abrupt onset of fever, headache, myalgia, sore throat and cough. Extreme malaise lasts several days, and the disease is usually self-limiting with full recovery within about seven days.</p> <p>Occurrence</p> <p>Influenza is an acute respiratory viral infection that occurs throughout the whole community, including HCWs. The disease may occur as isolated cases, localised outbreaks, epidemics or pandemics. It is seasonal, with most cases reported in Darwin following a Southern autumn and winter each year.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>The period of communicability is believed to begin at the time of onset of symptoms, and continues for a period of 3–5 days in adults, and up to seven days in children.</p> <p>Mode of transmission</p> <p>Aerosolised respiratory secretions are the main source of transmission, but the virus can also be transmitted by direct contact with fomites, as it is relatively stable under conditions of low temperature and humidity.</p> <p>Risk of acquisition</p> <p>All people in contact with symptomatic influenza patients are at risk of the disease, unless they have been immunised with the current vaccine formulation. Influenza vaccine has an efficacy of about 70%¹. Those at particular risk from the complications of influenza include:</p> <ul style="list-style-type: none"> • the elderly; • adults with chronic debilitating disease, such as cardiac, pulmonary, renal and metabolic disorders; • children with cyanotic congenital heart disease; • people receiving immunosuppressive therapy; • Aboriginal and Torres Strait Islander adults aged 50 years and over; and • residents of long-term care establishments. <p><u>Management</u></p> <p>Details for the routine management of influenza in the health care setting are outlined below. However, at the time of a pandemic, the priority groups and the timing of immunisation may be quite different from those during interpandemic periods. In addition, the number of vaccine doses required to confer protection and the optimal time for immunisation may differ. The Australian Pandemic Planning Committee is developing guidelines for vaccine use and will advise health authorities regarding priority groups, dosing schedules and timing of immunisation should a pandemic occur.</p>

	<p>Patients</p> <p><u>Additional precautions (droplet transmission)</u> must be observed (refer to Section 2). Respiratory isolation practices must be implemented, and patients treated symptomatically. Refer to NHMRC <i>The Australian Immunisation Handbook</i> 8th edition 2003 for immunisation recommendations.</p> <p>Health care workers</p> <p>HCWs who contract the disease are required to take sick leave, or be deployed elsewhere to avoid patient contact, as appropriate. To further protect patients, annual immunisation is also recommended for health care providers, including HCWs in long-term care establishments, and providers of home care to people at high risk, (e.g., nurses, volunteer workers)²</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting</i></small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • NHMRC <i>The Australian Immunisation Handbook</i> 9th edition 2008.
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Refer to RDH Influenza outbreak policy for Infection control responsibilities during an outbreak. • HCWs are responsible to be up to date with their immunisations. At commencement of employment they can book into the staff immunisation clinic on 27885 if immunisations are required or status unknown

¹ Palache et al in /CG 2004

²NHMRC 2003

29.10 Measles

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Measles Virus, a Morbillivirus of the Paramyxoviridae family.</p> <p>Clinical manifestations</p> <p>Measles is an acute, highly infectious disease characterised by fever, rash, conjunctivitis, coryza, cough and koplik spots on the buccal mucosa. The rash sometimes results in desquamation. The disease is more severe in infants and adults than in children. Complications of measles include middle ear infections, pneumonia and encephalitis. A late complication, resulting from chronic infection with measles virus, is sub acute sclerosing panencephalitis.</p> <p>Occurrence</p> <p>Before the introduction of an effective vaccine, measles was a common childhood disease. Measles immunisation programs have markedly decreased the incidence of the disease, although periodic outbreaks occur, mainly in nonimmunised people. At present, most disease occurs in children too young to be immunised, and those too old to have been immunised as children¹.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Patients are infectious from shortly before the onset of symptoms until about four days after appearance of the rash.</p> <p>Mode of transmission</p> <p>Measles virus is transmitted by aerosols or direct contact with nasopharyngeal secretions, or less commonly by items recently contaminated by infectious material.</p> <p>Risk of acquisition</p> <p>Susceptibility is universal in those who have never had the disease and who have not been immunised. Clinical measles or immunisation confers immunity, probably for life.</p> <p><u>Management</u></p> <p>The following information is based on the <i>Guidelines for the Control of Measles Outbreaks in Australia</i> (CDNANZ and MEAC 2000).</p> <p>Patients</p> <p><u>Additional precautions (airborne and droplet transmission)</u> must be observed (refer to section 2). Susceptible people should wear a surgical mask when entering the room of a measles patient.</p> <p>HCWs should be aware that an individual with measles can enter their health care establishment at any time and that there is a continuous risk of health care associated spread of measles. All staff must be familiar with isolation procedures to reduce measles exposure and should inform infection control on 28045 immediately measles is diagnosed. HCWs must consider the wider public health ramifications when diagnosing a case of suspected measles, and collaborate closely with the Northern Territory Centre for Disease Control on 28044.</p>

	<p>HCWs should check the immunisation status of all children and young adults attending their health care establishment for any reason. If not fully immunised, the patient should be offered the appropriate immunisation if it is not contraindicated. This should be implemented at all immunisation clinics, doctors' rooms, public and private clinics, health centres and hospital emergency and outpatient wards². The combined measles–mumps–rubella (MMR) vaccine should always be used. Pre-immunisation screening by history has been shown to be cost effective³.</p> <p>Health care workers</p> <p>HCWs with measles symptoms will be precluded from contact with susceptible persons until the results of appropriate tests to confirm measles are known. They may return to work if they have serological evidence of immunity (i.e., are IgG seropositive and immunoglobulin M (IgM) seronegative) or four days after appearance of the rash if they develop measles². Susceptible HCWs are at significant risk because this disease is often complicated in adults.</p> <p>All HCWs who have not received two doses of a measles-containing vaccine or do not have adequate measles antibody titres at the time of employment and have no contraindications are offered MMR immunisation. Make an appointment with the immunisation clinic on 27885. Tuberculin skin testing should not be carried out for at least one month after the MMR immunisation.</p> <p>Susceptible HCWs exposed to measles should be offered a dose of MMR vaccine within 72 hours post exposure, or a dose of immunoglobulin if they were exposed between three and seven days earlier. Until the HCW receives either the MMR vaccine or immunoglobulin, or if they do not receive either of these within the specified timeframes, they will be precluded from contact with susceptible people until 14 days after their last exposure. Furthermore, if a susceptible HCW has not previously received any doses of a measles containing vaccine, a second dose of MMR should be offered four weeks after the first dose.</p> <p>Instruments and environment</p> <p>Additional precautions (airborne and droplet transmission) must be observed in addition to routine reprocessing of instruments and equipment (refer to Section 10) and routine cleaning of the environment (refer to section 13).</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational</i>

	<p><i>Health and Safety Statement 3.21 2000</i></p> <ul style="list-style-type: none"> • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • NHMRC <i>The Australian Immunisation Handbook 9th edition 2008.</i> • CDC measles fact sheets http://www.health.nt.gov.au/Centre for Disease Control/Publications/CD_C_Factsheets/index.aspx • 2000 National measles guidelines currently under review.
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure additional precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • CDC is required to be contacted by the Medical team treating the infected person. • HCWs are responsible to be up to date with their immunisations. At commencement of employment they can book into the staff immunisation clinic on 27885 if immunisations are required or status unknown

¹ Gidding et al, Papania et al, CDC, Miller et al in ICG, 2004

² CDNANZ and MEAC 2000

³ Ferson et al in ICG, 2004

29.11 Parvovirus

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Human Parvovirus B19. Diagnosis is by serology and/or viral DNA detection.</p> <p>Clinical manifestations</p> <p>In children, human parvovirus B19 causes 'fifth disease' (erythema infectiosum), a rubella-like illness with a distinctive facial rash — the 'slapped cheek' syndrome. In adults, arthritis is often observed and may persist for weeks or even months. Both the rash and arthritis are due to circulating immune complexes of the virus and antibody. The incubation period is about 10–14 days.</p> <p>The virus grows in the erythroid progenitor cells in the bone marrow. In patients with haemolytic anaemia, B19 infection causes aplastic anaemia, which may be severe but resolves once the patient is convalescent. Immunosuppressed patients may be unable to clear the virus and persistent anaemia ensues. Administration of normal pooled immunoglobulin may assist the patient to eliminate the virus. Infection in the first half of pregnancy may affect the foetus, causing aplastic anaemia that later becomes manifest as midsemester hydrops foetalis¹.</p> <p>Foetal death occurs in less than 10% of cases². Intra-uterine transfusion has been used successfully in the management of this condition³.</p> <p>Occurrence</p> <p>Community and school outbreaks occur at irregular intervals. A significant proportion of adult contacts are susceptible and may become infected. In temperate climates, epidemics tend to occur in Southern winter and spring. Health care associated outbreaks of parvovirus B19 involving infection of patients and HCWs, including pregnant HCWs, have been reported.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Most cases are believed to be infectious before the appearance of the rash, and probably not thereafter. Those with parvovirus-induced aplastic anaemia are infectious up to a week after onset of symptoms. Immunosuppressed patients with chronic infection may be infectious for some years⁴.</p> <p>Mode of transmission</p> <p>Natural transmission is via the respiratory route.</p> <p>Risk of acquisition</p> <p>Susceptibility to infection is universal, and immunity is conferred by the development of antibodies. Those most at risk from the severe complications of infection are the immunocompromised, patients with haemolytic disease and women during the first half of pregnancy.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions (droplet transmission) must be observed for infected patients (refer to section 2). At present there is no vaccine.</p>

	<p>Health care workers</p> <p>HCWs with parvovirus B19 infection should be precluded from contact with susceptible persons while they are considered infectious, (i.e., before the appearance of a rash). HCWs at high risk of the complications of infection should be rostered to avoid patients with parvovirus B19 infection. At present there is no vaccine.</p> <p>Instruments and environment</p> <p>The virus is very resistant in the environment and in biological materials such as blood or plasma. Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) should be employed⁵.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ Gilbert, Skjoldbrand-Sparre et al, in *ICG*, 2004

² Yaegashi in *ICG* 2004

³ Goodear et al in *ICG* 2004

⁴ Broliden et al in *ICG* 2004

⁵ Schwarz in *ICG*, 2004

29.12 Rotaviral enteritis

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Human Rotavirus (HRV).</p> <p>Clinical manifestations</p> <p>The disease is seen mainly in children and is characterised by fever, vomiting and watery diarrhoea, although diarrhoea is uncommon in children less than three months of age. In young children, severe dehydration and death may ensue if treatment is delayed.</p> <p>Occurrence</p> <p>Rotavirus infection presents as a gastrointestinal disease. The virus is widespread, and most children have been infected by the time they are three years old¹. Most infections in the first month of life are asymptomatic. About one-third of infections after one month of age are associated with diarrhoea, with the peak incidence of clinical disease in the 6–24-month age group². The virus will sometimes cause diarrhoea in adults, particularly the elderly³ and immunocompromised.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Patients are infectious during the acute phase, and for up to eight days after recovery. Immunocompromised patients may excrete the virus for 30 days or more.</p> <p>Mode of transmission</p> <p>The most likely route of transmission is believed to be faecal–oral, although exposure to aerosolised respiratory secretions may be a secondary source of infection.</p> <p>Risk of acquisition</p> <p>Children aged 6–24 months, who have not been exposed to the virus, are most at risk from symptomatic disease. Immunocompromised people and the elderly are also at increased risk.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions (contact transmission) must be observed (refer to Section 2). Patients should be nursed in isolation from other at-risk patients. In paediatric settings, cross-infection occurs when several patients are hospitalised with rotavirus.</p> <p>Health care workers</p> <p>In addition to standard precautions, HCWs with rotavirus infection must either take sick leave or be rostered to avoid contact with at-risk patients.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) should be employed.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>

Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008 • CDC rotavirus fact sheet http://www.health.nt.gov.au/Centre_for_Disease_Control/Publications/CD_C_Factsheets/index.aspx
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ Mrukowicz et al in 2004

² Schumacher and Forster, Murphy et al in ICG 2004

³ Marrie et al, Dupuis et al in ICG, 2004

29.13 Respiratory Syncytial Virus (RSV) infection

Policy Statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by Respiratory Syncytial Virus (RSV), a paramyxovirus.</p> <p>Clinical manifestations</p> <p>In infants, up to 40% of cases present as lower respiratory tract infection, including bronchiolitis, pneumonia and tracheobronchitis. Low-grade fever, accompanied by coughing and wheezing, is common. In more severe cases, profound respiratory distress can occur, resulting in hypoxia, cyanosis and apnoea.</p> <p>Occurrence</p> <p>RSV is a significant respiratory tract pathogen in young children and a major cause of lower respiratory infection in infants. The virus is widespread and causes seasonal outbreaks in temperate climates, with peak incidence usually following a Southern autumn and winter.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Patients are infectious from shortly before the onset of symptoms, and for the duration of the illness. In a small proportion of infants, shedding of the virus may occur for several weeks after resolution of symptoms.</p> <p>Mode of transmission</p> <p>RSV may be transmitted directly by oral contact, by exposure to aerosolised respiratory secretions or, indirectly, by contact with fomites, such as contaminated eating utensils, handkerchiefs, towels and toys¹.</p> <p>Risk of acquisition</p> <p>The risk of acquisition is universal, and the risk of serious disease is greatest in infants², children, the elderly, immunocompromised people³ and those with chronic heart or respiratory disease. Infection with RSV induces short-lived antibodies, and those who are reinfected generally have a milder illness.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions (contact and airborne transmission) must be observed (refer to section 2). Patients should also be nursed in isolation from other at-risk individuals, such as infants, the elderly, the immunocompromised and those with chronic heart or respiratory disease. In situations where there are several patients with RSV, such as in hospital paediatric wards, patients can be cohort managed.</p> <p>Health care workers</p> <p>HCWs with RSV will be precluded from contact with susceptible persons. HCWs at risk from the serious sequelae of RSV infection should not have contact with patients with this condition.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p>

	Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i> , Government of Australia, Australia.
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ Hall in *ICG*, 2004

² Bruckova et al in *ICG*, 2004

³ Englund et al in *ICG*, 2004

29.14 Rubella

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Rubella Virus, a togavirus.</p> <p>Clinical manifestations</p> <p>Rubella is a mild disease characterised by a low-grade fever and a maculopapular rash. Children generally have few symptoms, but adults frequently have fever, headache, lethargy, mild coryza and conjunctivitis and, occasionally, arthritis.</p> <p>Occurrence</p> <p>In general, women of childbearing age are immune because of community immunisation programs, but males remain at risk. Rubella in males may cause significant debility (1–2 weeks away from work) and infected male HCWs can transmit infections to patients and other HCWs.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Patients are infectious for about one week before, and for several days after, the onset of rash. Infants with congenital rubella syndrome may excrete the virus for several months after birth.</p> <p>Mode of infection</p> <p>Rubella infection is readily transmitted by droplets and through close contact with infected patients.</p> <p>Risk of acquisition</p> <p>All people who have not been immunised, or who have not had rubella, are susceptible. Infants infected in utero up to the 20th week of gestation are at highest risk of congenital rubella syndrome.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions (droplet transmission) must be observed (refer to section 2).</p> <p>Monovalent rubella vaccines and combination MMR vaccines are available for routine immunisation in Australia. Refer to NHMRC <i>The Australian Immunisation Handbook</i> 9th edition 2008.</p> <p>Health care workers</p> <p>Due to the risk of congenital deformities in the foetus, nonimmune pregnant HCWs should be rostered to avoid contact with rubella-infected patients.</p> <p>MMR vaccines are available for routine immunisation in Australia¹. Immunisation will reduce the likelihood of HCWs acquiring rubella. All HCWs born since 1960 should have either two documented doses of MMR vaccine or serologic evidence of immunity to measles, mumps and rubella. Refer to NHMRC <i>The Australian Immunisation Handbook</i> 9th edition 2008</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to sections 10) and routine cleaning of the environment (refer to section 13) must be</p>

	<p>employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • NHMRC <i>The Australian Immunisation Handbook 9th edition</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • HCWs are responsible to be up to date with their immunisations. At commencement of employment they can book into the staff immunisation clinic on 27885 if immunisations are required or status unknown.

¹ NHMRC 2003

29.15 Severe Acute Respiratory Syndrome (SARS)

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p>Note: Severe acute respiratory syndrome (SARS) is considered an 'emerging' disease at the time of the release of this manual. More current and specific SARS information can be found at http://www.health.gov.au/sars.htm.</p> <p>CDNA have developed interim Australian Infection Control Guidelines for Severe Acute Respiratory Syndrome (SARS) 25th April 2004. Refer to these for detailed Infection Control procedures. Ring infection Control 28045 or they can be downloaded from the above website.</p> <p><u>Disease description</u></p> <p>Aetiology</p> <p>A disease caused by a novel coronavirus and characterised by atypical pneumonia.</p> <p>For daily information on areas affected by SARS, see the WHO website at www.who.int. The World Health Organization (WHO) issued a global alert about SARS on 12 March 2003. The outbreak was originally detected in Guangdong Province in southern China, and the disease has since spread to over 29 countries.</p> <p>Clinical manifestations</p> <p>SARS presents as fever, coughing, sneezing and respiratory symptoms (shortness of breath or difficulty breathing), with changes of atypical pneumonia on chest X-ray.</p> <p>Any person suspected of having SARS should have a chest X-ray performed. X-ray changes are one of the essential criteria for definition of a case.</p> <p>Occurrence</p> <p>People with SARS do not necessarily have severe illness. Some have mild to moderate 'cold' symptoms that resolve without any treatment. In such instances, they may unknowingly infect others with the SARS virus. People who are frail or in poor general health or who have chronic diseases are more likely to suffer severe illness when infected.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>In the incubation period, SARS is not transmitted from person to person. Infectivity begins in the prodromal period of fever and non-specific symptoms. When respiratory symptoms develop, there is a higher level of infectivity. Very severe cases ('super spreaders' who are extremely unwell) have high levels of transmission.</p> <p>Mode of transmission</p> <p>Droplet and direct contact appear to be the predominant modes of transmission, although airborne and indirect transmission through fomites remains a possibility. Transmission via contact with faeces from infected persons is also possible.</p>

Risk of acquisition

SARS is highly infectious to close contacts, particularly HCWs providing clinical care and support.

Management**Patients**

Infection control measures for suspected and confirmed SARS patients should include the following:

- Use standard precautions (i.e., hand hygiene).
- Use contact and droplet precautions (i.e., use of long-sleeved gowns, gloves and protective eyewear for contact with patient or environment).
- Use airborne precautions; that is, an isolation room with negative pressure relative to the surrounding area and use of a P2 (N95 equivalent) mask (respirator) for all persons entering the room.
- The patient should be cared for in a respiratory isolation room (with ensuite).
- The door to the patient's room must remain closed.
- Patient movement should be restricted (and if they must leave their room, a surgical mask must be in place).
- Avoid the use of nebulisers, chest physiotherapy, bronchoscopy, gastroscopy or any intervention that may disrupt the respiratory tract.
- Surgical masks should be placed over nasal oxygen prongs.
- Preferably, disposable long-sleeved gowns and face protection should be worn.

Health care workers

Limit non-essential HCW contact with SARS patients. HCWs are to avoid direct contact with SARS patient secretions and excretions.

A record will be kept of any reports of unprotected exposure to SARS cases. Management, active/passive surveillance and quarantine depend on the status of the SARS case and will be reviewed on a case-by-case basis by the infection control team (further information is available at <http://www.health.gov.au/sars.htm>).

All workers in a SARS team must have their temperatures taken and recorded twice daily.

Immunocompromised HCWs must not care for SARS patients.

Instruments and environment

Use disposable equipment wherever possible in the treatment and care of patients with SARS and dispose of it appropriately as clinical waste. Personal eyewear, (i.e., spectacles) should be disinfected using an appropriate process.

If devices are to be reused, they should be cleaned and disinfected or sterilised to the minimum level of reprocessing required for specific items in use. (Refer to 10.3 Single use items)

Note: single-use (labelled disposable) or single-patient use intubation and suction equipment should not be reused on another patient, as it cannot be reprocessed adequately to ensure safety.

Environmental surfaces should be cleaned with warm water and detergent in accordance with section 10. A hospital-grade disinfectant with an additional general virucidal claim on the label should be used after this treatment.

	Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i> , Government of Australia, Australia.
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • CDNA <i>interim Australian Infection Control Guidelines for Severe Acute Respiratory Syndrome (SARS)</i> 25th April 2004 • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003 • AZ/NZS 2243.3 (1995) and Amendments 1 (1996) and 2 (1998) <i>Safety in laboratories</i>
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

29.16 Varicella–Zoster (chickenpox and shingles)

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with Varicella Zoster Virus (VZV), a herpesvirus.</p> <p>Clinical manifestations</p> <p>Acute VZV infection in humans usually presents as chickenpox (varicella), which in adults can occasionally be a debilitating illness, particularly during pregnancy.</p> <p>Infection of adults is generally more severe than infection of children¹. There is also some evidence that the infection may be more severe in pregnant than in non pregnant women².</p> <p>Reactivation of VZV infection can occur as shingles (zoster), usually decades after the initial infection. Reactivation takes the form of a cluster of vesicles involving a single dermatome. Blister fluid from the vesicles is infectious and contact can result in primary varicella infection (chickenpox) in a nonimmune contact.</p> <p>Occurrence</p> <p>Acute VZV infection (chickenpox) occurs worldwide, with about 95% of people having been infected by early adulthood. With the introduction of VZV vaccine in some countries, the incidence of clinical chickenpox is expected to decline. Susceptible HCWs may acquire VZV from patients who have either chickenpox or shingles. This occurs frequently in people with HIV infection or immunosuppression due to other causes, (e.g., disseminated malignancies).</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Patients may be infectious for up to two days before the appearance of chickenpox lesions. Communicability persists for up to five days after vesicles first appear in acute infection, and patients with shingles should be regarded as infectious for up to a week after the rash appears. Immunocompromised people remain infectious for longer periods.</p> <p>Mode of transmission</p> <p>Acute VZV (chickenpox) is readily transmissible. Transmission occurs from person to person by direct contact, or by droplet or airborne spread of virus from either the respiratory tract or vesicle fluid. Precautionary measures such as masks are only partially effective in preventing transmission to susceptible people.</p> <p>Risk of acquisition</p> <p>Susceptibility to VZV is universal in people who have not been previously infected or immunised. VZV is one of the most infectious of all communicable diseases. In the household setting, secondary attack rates range up to 90% in susceptible siblings.</p>

Management

Patients

Additional precautions (airborne and contact transmission) must be observed for patients with chickenpox (refer to section 2).

Additional precautions (contact transmission) must be observed for patients with localised shingles and additional precautions (airborne and contact transmission) must be observed for patients with disseminated shingles. Masks are not completely effective in preventing transmission, so susceptible persons should avoid contact with patients with chickenpox.

The NHMRC has approved the use of VZV vaccine for children from 12 months of age (see NHMRC 2003).

Health care workers

HCWs (especially pregnant women) should not have direct contact with patients infected with VZV unless they have a definite history of previous chickenpox or serological evidence of previous infection. Screening by history is recommended. Immunodeficient HCWs should not be involved in the care of patients with VZV infection.

An enzyme-linked immunosorbent assay (ELISA) is available that reliably detects the presence of serum antibodies to VZV after natural infection (but not after immunisation). Immunisation with VZV is recommended for nonimmune HCWs, particularly for nonimmune women before pregnancy and for nonimmune carers of immunosuppressed people.

The vaccine should not be given during pregnancy and women who are immunised should not become pregnant for one month after immunization.

If an HCW has a history of clinical chickenpox, testing is not necessary since they will be immune. Before beginning employment or placement in paediatric wards, paediatric HCWs with patient contact must be aware of their immunity status. Those who have had the disease are considered immune but all other HCWs must have their immune status assessed by ELISA as soon as possible.

If susceptible HCWs are in contact with VZV, they must be assessed medically during the incubation period and precluded from contact with susceptible or immunocompromised patients. Zoster immunoglobulin (ZIG) prophylaxis should be considered in accordance with NHMRC guidelines (see NHMRC 2003). In such cases, use of high-titre ZIG, available from the Australian Red Cross Blood Transfusion Service on a restricted basis, should be considered for the prevention of varicella. ZIG must be given early in the incubation period (within 96 hours of exposure). Normal immunoglobulin (human) (NIGH) can be used for the prevention of varicella if ZIG is unavailable. ZIG should be given to pregnant women who are susceptible to varicella infection (they should have been tested for anti-VZV antibodies).

Treatment with acyclovir or related compounds may be indicated if lesions develop.

Instruments and environment

Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) should be employed.

Adapted from: Communicable Disease Network of Australia (CDNA), 2004, *Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)*, Government of Australia, Australia.

Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003 • NHMRC <i>The Australian Immunisation Handbook</i> 9th edition 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Before beginning employment or placement in paediatric wards, paediatric HCWs with patient contact must be aware of their immunity status. Those who have had the disease are considered immune but all other HCWs should have their immune status assessed by ELISA as soon as possible. Ring the immunisation clinic on 27885.

¹ Chant et al in *ICG*, 2004

² Pierre et al, Enders et al, Baren in *ICG* 2004

29.17 Viral Haemorrhagic Fevers (VHFs)

Policy Statement	<p>Management of patients and their environment will comply with definitions and procedures outlined below.</p> <p>Quarantine rules exist for these infections</p>
Objectives	<p>Hospital transmission will be avoided.</p>
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Viral Haemorrhagic Fevers (VHFs) are a group of viral diseases. The most clinically important viruses are:</p> <ul style="list-style-type: none"> • Lassa Fever Virus (an arenavirus); • Marburg Virus (a filovirus); • Ebola Virus (a filovirus); and • Crimean–Congo Haemorrhagic Fever Virus (a bunyavirus). <p>Clinical manifestations</p> <p>VHFs usually present as febrile illness with headache, myalgia, sore throat, cough and vomiting. Some patients have a cough, chest pain, abdominal tenderness and skin rash. In severe cases, patients may suffer extensive haemorrhaging, accompanied by a purpuric rash and bleeding from almost any part of the body, including intestine, eyes, gums, nose, mouth, lungs and uterus. Encephalopathy and multiorgan failure are common in severe cases and the case mortality rate is high.</p> <p>Occurrence</p> <p>VHFs present a significant risk to Australia due to the ease of international travel. However, despite recent outbreaks in Africa, there have been no instances of confirmed infection with these viruses in Australia.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Patients are infectious while they are symptomatic and until the virus has been cleared from blood and body fluids. Lassa fever virus has been found in respiratory secretions of a symptomatic patient and in urine during the convalescent phase. Sexual transmission of Ebola virus and Lassa fever virus has been recorded, and Ebola virus has been found in seminal fluid for up to two months after the onset of symptoms.</p> <p>Mode of transmission</p> <p>Recent evidence on the mode of transmission of these viruses indicates that the main risk of transmission in the health care setting is from mucosal or parenteral exposure to contaminated blood or other body fluids. Lassa fever virus may also be transmitted by exposure to aerosols of contaminated body fluids, particularly nasopharyngeal secretions and urine¹.</p> <p>VHFs are classified as dangerous biological agents (high individual and community risk; AS/ANZ 2243.31). Transport and handling of specimens therefore requires special precautions.</p> <p>Risk of acquisition</p> <p>Susceptibility to these viruses is universal.</p> <p><u>Management</u></p> <p>Patients</p> <p>Patients and their body fluids are highly infectious. Specific advice on management of suspected VHF infections should be sought from the chief</p>

quarantine officer in the Northern Territory, who should be contacted immediately at CDC 28044 or through RDH switchboard.

Lassa fever, Marburg haemorrhagic fever, Ebola haemorrhagic fever and Crimean–Congo haemorrhagic fever are quarantinable diseases.

All patients with suspected VHF and their specimens and bodily secretions should be handled at Physical Containment Level 4 (PC4) (AS/NZS 2243.3). All specimens must be handled with appropriate safeguards. The specimens should not be sent through the normal courier mechanisms (human or other), to ensure that accidents do not occur as a consequence of mishandling or misplacement. The laboratory manager (28004) and infection control practitioner (28045 or paged through RDH switchboard) must be alerted immediately to ensure appropriate handling of specimens.

Primary Diagnosis

As the patients are likely to be first seen in Emergency Department, an experienced Consultant should be contacted for advice on diagnosis as soon as possible. When further doubt exists about the diagnosis, the following resources persons **MUST** be contacted:

- Infectious Diseases Physician, Royal Darwin Hospital Page through switch.
- Director of Pathology, Royal Darwin Hospital, Darwin, 8922 8022, or page
- Director Disease Control, Block 4, RDH Campus, 89228510 or 8922 8007 or 8922 8044
- Chief Medical Officer, Health House, 8989 2400

Contract for further advice:

- Director of Human Quarantine, Commonwealth Department of Health and Family Services, Canberra. Office hours (02) 62891555 after hours - contact via switch.

General Management Of Suspect Cases

Urgent notification is required for patients with confirmed VHF and for those fitting the categories of moderate and high-risk cases.

High Risk patients with an unexplained fever who have been in rural areas or large towns where VHF is present and nursing staff from country hospitals in those areas, contacts of confirmed cases, and laboratory workers handling material possibly containing these viruses.

Moderate Risk patients from small towns or country districts not known to be associated with VHF.

Low Risk patients who stayed only in major tropical African cities for a brief period with no rural area contact.

Isolation of cases

The same precautions as those taken with blood and other body fluids from patients infected with Hepatitis B virus or Human Immunodeficiency virus, combined with precautionary nursing care, effectively prevent the transmission of Lassa virus.

Ideally cases should be cared for at the hospital where they are first seen. If this is not possible, then the patient should be transferred to an infectious disease unit at a major hospital, as nominated within State/Territory for management of quarantinable viral haemorrhagic fevers.

VHF unit At Royal Darwin Hospital

Location

Area 5 (contains two single rooms with own ensuites) of the Adult Isolation Unit on Ward 4B have been designed for use as a negative pressure VHF

unit.

Additional category

Contact precautions are required. These are best covered by the yellow card for "Skin Contact Precautions" usually used for severe infestations as this card lists the need for long sleeved gowns, gloves, over-boots and similar as described below.

Staff access to isolation room:

Only essential medical and nursing personnel should enter the isolation area, and are required to wear:

- long-sleeved gowns
- gloves
- masks
- disposable balaclava hats
- protective eye-wear
- over-boots

Human waste disposal

All excretion, secretion from patient to be incinerated. (liase with infection Control on 28045 to arrange) Double bag disposable pan/vessel in heavy duty yellow clinical waste disposal bags and arrange for waste bags to be incinerated immediately.

Medical equipment

Non-disposable, heat tolerant items are to be double bagged using CSD autoclavable bags, outside of bag to be decontaminated with chemical solution (Sodium hypochlorite 0.5%, etc) and sent to CSD to be autoclaved prior to contents being handled.

Medical waste

Waste is to be double bagged, taking care not to contaminate the external surface of the outer bag. Send for incineration. Ensure that the yellow clinical waste plastic bags marked "Infectious Waste for Incineration" are used to contain this category of waste. (Liase with infection Control 28045 regarding incineration) The waste management facility staff must be advised that the bags are to be incinerated immediately without being opened or inspected in any way.

Laundry

Use disposables as applicable.

- Non-disposable linen is loosely packed in autoclavable plastic bags available from Laboratory.
- Then double bagged into a second autoclavable plastic bag, marked "Infectious Linen for Autoclaving".
- The CSD Manager and the Laundry Manager must be notified that the linen is from the isolation unit.
- Foul linen (soiled with faeces, blood etc) is to be double bagged and incinerated.

[The Laundry Manager and the Infection Control Nursing Director to be consulted before arranging incineration of linen].

Guidelines for setting up area 5, ward 4B for isolation.

It is the responsibility of a medical officer nominated as a Quarantine Officer (Human Treatment) to determine the need for a patient to be transferred in to isolation. The following is provided as a guide to establishing the isolation

	<p>area at short notice. The rooms chosen for VHF case management are normally used to accommodate patients requiring isolation of airborne diseases.</p> <p>Relocate patients currently occupying these rooms to another suitable area within ward or other medical ward.</p> <p>Contact Housekeeping service and request urgent terminal cleaning of the two rooms and associated toilet/shower areas.</p> <p>Set up one room as a staff change room / shower.</p> <p>Prepare second room ready for the suspect VHF patient by ensuring all requirements for isolation are readily at hand. Stocks should be maintained in locked cupboards within the immediate area.</p> <p>Isolation stocks required include:</p> <ul style="list-style-type: none"> • Resuscitation and examination equipment • Intravenous equipment, supplies, tourniquet, alcohol swabs and wipes • Injection equipment and sharps container • Specimen collection containers and biohazard specimen bags • Yellow clinical waste bags, autoclavable laboratory waste bags and pink plastic laundry bags • Concentrate Polyphenolic Disinfectant • Plastic or disposable bedpans and urinals (must be able to incinerate). • Supply of hospital [theatre] pant suits, long sleeved gowns, hats, masks, gloves, protective eyewear and shoe covers • Concentrate Sodium hypochlorite and disposable cleaning cloths • Waterproof marker pens and general stationery stock <p>Patient transfer to isolation unit:</p> <ul style="list-style-type: none"> • All persons involved in the transfer must wear full protective clothing of hat, mask, long-sleeved gown, gloves, protective eyewear and overshoes. • Clearly display the additional precaution (ISOLATION) card on the sliding door for area 5 and ensure door remains closed. All persons entering the area need to be made aware that full protective clothing is required. • Personnel entering area is to be kept to an absolute minimum. • Staff are to change out of own uniform, don hospital dress/pant suit and long sleeved gown, as well as hat, mask, gloves and overshoes. (i.e., same attire as for Paediatric Isolation Unit). • On leaving the isolation unit, staff shower prior to re-dressing in own uniform or clothing. • Arrange with Catering for patient's meals to be served using all disposable items. • Provide the Laundry Manager with an estimate of the daily requirement of additional protective clothing/linen required to adequately maintain patient isolation. • Advise CSD Manager that CSD will be receiving items double bagged in autoclavable bags for decontamination <u>that must not be opened before processing</u>. • Advise waste management facility staff that items from the isolation unit marked for destruction must be incinerated as soon as they arrive in the area. This may mean holding the bagged/sealed waste inside the isolation unit after hours until the waste management facility is open.
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	<p>Specimen collection</p> <p>No specimens are to be collected from a suspect VHF case without prior discussion with the Director of Pathology. Any specimens that may have been collected prior to the provisional diagnosis of VHF MUST be identified and advised to the Director of Pathology. Most hospital acquired infections occur as a result of laboratory type accidents.</p> <p>Surgery</p> <p>If the patient requires an operation, the theatre personnel are to double glove and wear full protective eyewear in addition to normal theatre garb. A waterproof apron should be worn under sterile theatre gowns.</p> <p>Daily cleaning and terminal cleaning</p> <p>To minimise the number of persons entering the isolation area, nursing staff should carry out damp dusting of the patient's room. Terminal cleaning is to be conducted as per the Hospital Environment Cleaning Manual. Staff are required to wear full protective clothing while undertaking terminal cleaning.</p> <p>Note: Refer problems pertaining to patient isolation to Infection Control Section, phone 89228045.</p> <p>Health care workers</p> <p>There are no vaccines available for VHFs. Additional precautions must also include rostering pregnant HCWs to avoid contact with a possible or confirmed VHF case. Instruments and environment PC4 containment (AS/NZS 2243.3) procedures should be used for waste or contaminated materials where VHF is confirmed or suspected. Contact the Northern Territory human quarantine officer to discuss waste containment and disposal requirements.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, RDH Infection Control Standards 2001</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. The managers of each unit have a responsibility to ensure additional precautions are being undertaken. Infection Control reviews the effectiveness of additional precautions

	<p>through surveillance and outbreak monitoring and implements a response when required.</p> <ul style="list-style-type: none"> • Infection Control is responsible for initial additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.
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¹ Stephenson et al in ICG, 2004

Bacterial diseases

30.1 Gastroenteritis and enteric bacterial pathogens

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>The more commonly diagnosed infectious agents include <i>salmonella</i> serotypes, <i>Campylobacter</i>, <i>Shigella</i> and <i>Clostridium difficile</i>.</p> <p>Clinical manifestations</p> <p>Abdominal pain, diarrhoea, nausea, vomiting and fever are common features of gastroenteritis.</p> <p>Occurrence</p> <p>Gastrointestinal infections are relatively common in the community, and there is no seasonality in incidence. Individuals may carry pathogens asymptomatically, sometimes for long periods.</p> <p>However, not all diarrhoea occurring in health care establishments is infectious and not all gastrointestinal infections result in diarrhoea.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Both symptomatic patients and asymptomatic carriers may be infectious. There are several pathogens that may be carried for long periods of time.</p> <p>Mode of transmission</p> <p>Gastrointestinal pathogens are transmitted by the faecal–oral route. The most likely sources of infection in health care establishments are other patients (especially paediatric patients) and food. Frequent screening of food handlers is not practicable. Asymptomatic excretors of gastrointestinal pathogens are unlikely to transmit disease if standards of hygiene are high and methods of food preparation and storage prevent incubation of pathogens.</p> <p>Salmonella and campylobacter are present in ‘normal’ poultry and other animals. Education of health care workers (HCWs) who handle food is the most effective method of reducing the risk of food borne infections in health care establishments.</p> <p>Sporadic cases of health care associated diarrhoea due to organisms other than <i>Clostridium difficile</i> are unusual, and gut pathogens such as <i>Shigella</i>, <i>Salmonella</i> (including <i>Salmonella enterica</i>) and <i>Campylobacter</i> are unlikely to be transmitted to HCWs caring for patients with diarrhoea if standard precautions are practised (refer to section 1).</p> <p>Cross-infection with <i>Clostridium difficile</i> can occur with spread from patient to patient, both from the contaminated environment and via the hands of HCWs.</p> <p>Risk of acquisition</p> <p>All age groups are susceptible, with immunocompromised patients and those on long-term antibiotic therapy being at highest risk.</p>

	<p><u>Management</u></p> <p>Patients</p> <p>Outbreaks of gastrointestinal infections should be investigated and any suspected cluster should be brought to the attention of an Infection Control practitioner immediately. Sporadic diarrhoea occurring more than 48 hours after admission should initially be investigated only for <i>Clostridium difficile</i>.</p> <p>Patients suffering from suspected or confirmed gastrointestinal infections (including <i>Clostridium difficile</i>) and who are continent must be nursed with standard precautions (refer to section 1). If they are incontinent, a separate room with facilities (including toilet) that are not shared with other patients is advised. Adequate hand washing facilities for HCWs and patients are essential.</p> <p>Health care workers</p> <p>If HCWs caring for patients diagnosed with gastrointestinal infections become ill, they will be assessed for gut pathogens where appropriate, and infection control procedures should be re-examined.</p> <p>HCWs with bacterial diarrhoea will not return to work until faecal cultures for the causative organism are negative. HCWs who handle food will not return to work until asymptomatic, and will not return to food-handling duties for another 48 hours after symptoms resolve. Known persistent carriers of salmonella must not handle food without assessment by Infection Control practitioners. Known carriers of salmonella must not work in food preparation areas without assessment of the premises and individual work practices.</p> <p>Routine screening of HCWs for gastrointestinal pathogens is not recommended.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to sections 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003

Compliance and responsibilities

- Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
- The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken.
- Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required.
- Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified
- Food Services Manager performs education of kitchen staff that handle food at commencement of service.
- Northern Territory of Australia Food Act December 1997

30.2 Legionellosis

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with <i>Legionella</i>, most commonly with <i>Legionella pneumophila</i>. In all, about 35 species of <i>Legionella</i> are recognised.</p> <p>Clinical manifestations</p> <p>Legionellosis is an acute bacterial disease characterised initially by anorexia, myalgia, lethargy and headache, followed soon thereafter by fever commonly reaching 40.5°C. Cough, abdominal pain and diarrhoea occur frequently. Severe infections may lead to respiratory failure and death.</p> <p>Occurrence</p> <p>Legionellosis may occur as sporadic cases or outbreaks, and is more frequently reported in Southern summers and autumn. The incidence of infection increases with increasing age, with most cases occurring in those over 50 years old.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>The organism is found in many aqueous environments, including contaminated airconditioning cooling towers, hot water systems, humidifiers, spa baths and respiratory therapy devices.</p> <p>Mode of transmission</p> <p>Airborne transmission in water droplets is believed to be the major, if not sole, means of infection. Person-to-person transmission has not been demonstrated, so hospitalised patients with legionellosis do not pose a risk for cross-infection.</p> <p>Risk of acquisition</p> <p>People over the age of 50 are at highest risk, particularly those who smoke or have chronic lung disease, renal disease, diabetes or a malignancy or who are immunocompromised.</p> <p><u>Management</u></p> <p>Patients</p> <p>Standard precautions are adequate for patients with legionellosis (refer to section 1).</p> <p>Health care workers</p> <p>Standard precautions provide adequate protection for HCWs (refer to section 1).</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment should be employed (refer to section 10).</p> <p>Special precautions for the environment include adequate maintenance of potential reservoirs of infection, such as hot water and airconditioning systems, spa baths, humidifiers and respiratory therapy equipment.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>

Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Engineering Services in consultation with Infection Control are responsible for arranging microbiological quality control of water supply, air-conditioning cooling towers and ice making machines.

30.3 Listeriosis

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with <i>Listeria monocytogenes</i>.</p> <p>Clinical manifestations</p> <p>Listeriosis is usually manifested as meningoencephalitis and/or septicaemia.</p> <p>Occurrence</p> <p>The disease primarily affects pregnant women, neonates, and the elderly and immunocompromised individuals receiving radiation therapy, chemotherapy, haemodialysis or glucocorticosteroid medications. Solid organ transplant recipients are at risk.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Listeria can be found on the surface of raw, unwashed vegetables and in certain processed foods, including soft cheeses, (e.g., brie, camembert, fetta and ricotta), paté, some cold meats, (e.g., cooked diced chicken and prepacked sliced meats) and packed salads, (e.g., coleslaw). Listeria is rarely transmitted by contact of open wounds with contaminated foods or sewage. Listeria is not unique to hospitals.</p> <p>Mode of transmission</p> <p>The disease is contracted by the consumption of contaminated foods (see Source of infection, above). Infants may contract the disease in utero or perinatally. Rare outbreaks have been associated with contaminated fomites or contact of wounds with contaminated sewage.</p> <p>Risk of acquisition</p> <p>Elderly and immunocompromised patients, and infants born to infected mothers, are at the highest risk of infection. Infection does not appear to confer subsequent immunity.</p> <p><u>Management</u></p> <p>Patients</p> <p>Standard precautions (refer to section 1) should be observed for patients with listeriosis. Pregnant women and immunocompromised people should avoid meals containing soft cheeses, diced chicken and cold processed meats.</p> <p>Health care workers</p> <p>Prevention of listeriosis in the RDH are similar to those used to prevent other foodborne diseases:</p> <ul style="list-style-type: none"> • Wash hands, knives and cutting boards after handling uncooked foods; • keep uncooked meats separate from vegetables and from cooked and ready to-eat foods; • cook raw meats thoroughly; • wash raw vegetables thoroughly before eating; and • avoid serving pregnant women and immunocompromised people meals containing soft cheeses, diced chicken and cold processed meats. <p>Instruments and environment</p>

	<p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • Northern Territory of Australia Food Act December 1997
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard precautions are being undertaken. • Infection Control reviews the effectiveness of standard precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • Supervising personnel in the routine course of their duties conduct daily inspections of cleaning standards. Deficiencies are addressed immediately. • Food Services section head is responsible for maintaining records of inspections detailing problems identified action taken and outcomes • Food Services Manager performs education of kitchen staff that handle food at commencement of service.

30.4 Meningococcal infection

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p>Refer to— <i>Guidelines for the early clinical and public health management of meningococcal disease in Australia (2007)</i></p> <p>http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-pubs-other-mening-2007.htm</p> <p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with <i>Neisseria meningitidis</i>. (the meningococcus).</p> <p>Clinical manifestations.</p> <p>Bacteraemia is an essential component of invasive meningococcal infection, which may present as meningitis, septicaemia or, more rarely, septic arthritis or chronic systemic infection.</p> <p>Presentation may be as acute bacterial meningitis (fever, headache, vomiting, neck stiffness) with or without petechial haemorrhages or other skin lesions seen with meningococcal bacteraemia.</p> <p>Meningococcaemia without meningitis may occur without a rash, but more usually with a petechial or grosser haemorrhagic rash. Progression to overwhelming shock can be rapid and this type of infection has a much higher death rate than uncomplicated meningococcal meningitis.</p> <p>Occurrence</p> <p>Meningococcal disease affects mainly younger children and adolescents, but can occur at any age. It can kill previously healthy children within several hours of onset. An increasing incidence of disease and of outbreaks has been associated with the spread of virulent clones of both serogroup B and serogroup C meningococci. In Australia, the incidence of meningococcal disease has been increasing over the past decade.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Nasopharyngeal carriers may be sources of infection. Patients with meningococcal septicaemia or meningitis usually become noninfectious within 24 hours of institution of appropriate therapy.</p> <p>Mode of transmission</p> <p><i>Neisseria meningitidis</i> is spread by direct contact, including by respiratory droplets from the nose and throat of infected people.</p> <p>Risk of acquisition</p> <p>Meningococcal infection has sometimes been a concern to hospital HCWs in contact with these cases. The risk of acquisition of infection by hospital HCWs is extremely low, unless they are in prolonged direct contact with the patient or they undertake mouth-to-mouth resuscitation of infected patients. This situation is unlikely to arise in a hospital after a patient is diagnosed and treated. Once treatment is initiated in acute meningococcal infection, infectivity appears to decrease rapidly, despite the fact that penicillin is not effective in clearing nasal meningococci in carriers. The <i>Meningococcal</i></p>

Guidelines recommend the use of rifampicin following parenteral penicillin, where penicillin has been used to treat meningococcal infection¹

Management

Patients

Additional precautions, droplet transmission must be observed for 24 hours after the initiation of antibiotic therapy (refer to section 2).

It is vital that all cases of meningococcal disease are notified, so that outbreaks can be identified. HCWs are guided in the management of outbreaks by Infection Control and the Centre for Disease Control (phone 28044). Close contacts that have become colonised with a virulent strain may develop invasive meningococcal disease: the risk is greatest in the first week after contact but may persist for many months. Those at risk include household members and contacts in day-care centres, who may have been exposed to the carrier who infected the index case in the 10 days preceding onset of illness in that case. People exposed to oral secretions, (e.g., by kissing or by mouth-to-mouth resuscitation) are also at risk. All those at risk should receive chemoprophylaxis.

The *Meningococcal Guidelines* should be consulted on the recommended chemoprophylaxis¹. No chemoprophylactic strategy is 100% effective. The most important aspect of prophylaxis is the need for immediate medical attention for any contact who develops a febrile illness within days or weeks of contact with a person with invasive meningococcal infection. In any such situation, depending upon the clinical circumstances, it will often be appropriate to culture a blood sample and start treatment without delay as for invasive meningococcal infection.

An outbreak of meningococcal disease in an institutional or community setting is a public health emergency needing a rapid response from both clinicians and public health practitioners. The decision to control an outbreak with an immunisation program will depend on identifying a well-defined population at risk, and estimating the magnitude of ongoing risk. CDC must be consulted when conducting such immunisation programs for the control of outbreaks of meningococcal disease.

Health care workers

Post exposure prophylaxis is only recommended for HCWs who are directly exposed to a case's nasopharyngeal secretions (i.e. The person who either intubated the case (but only if a facemask was not worn), or performed mouth-to mouth resuscitation on the case require clearance antibiotics. Other healthcare staff managing the patient do not require clearance antibiotics

Routine immunisation of staff with current meningococcal vaccines is not recommended, as the risk of meningococcal disease in Australia is relatively low. Immunisation is, however, recommended for microbiology laboratory staff that may be exposed to meningococcus and people with inherited defects of properdin or complement, or functional or anatomical asplenia.

Instruments and environment

Additional precautions, droplet transmission must be observed (refer to section 2).

	Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i> , Government of Australia, Australia.
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003 • National Health and Medical Research Council (NHMRC) <i>The Australian Immunisation Handbook</i> 9th edition 2008. • CDNA <i>Guidelines for the early clinical and public health management of meningococcal disease in Australia</i> (2007)
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. • HCWs have a responsibility that all cases of meningococcal disease are notified, so that outbreaks can be identified. HCWs are guided in the management of outbreaks by Infection Control and the Centre for Disease Control.

30.5 Pertussis (whooping cough)

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with the gram-negative coccobacillus <i>Bordetellapertussis</i>.</p> <p>Clinical manifestations</p> <p>Pertussis (whooping cough) is a serious, sometimes fatal, respiratory infection. The cough becomes paroxysmal usually within 1–2 weeks and often lasts 1–2 months or longer. Patients frequently expel clear, thick mucous and vomiting is common. Infected adults may have a persistent cough, but without the paroxysms seen in children.</p> <p>Occurrence</p> <p>Pertussis is endemic in Australians of all ages. Outbreaks occur periodically but the incidence is low in communities with high immunisation rates.</p> <p><u>Transmission</u></p> <p><u>Source of infection</u></p> <p>Humans are thought to be the only natural reservoir. Children may be infected by a sibling or an infected adult.</p> <p>Mode of transmission</p> <p>Pertussis is a highly infectious disease, spread by respiratory droplets. The incubation period is usually 7–10 days. Individuals may be infectious from seven days after exposure to three weeks after the onset of typical paroxysms. The initial catarrhal stage of the illness has an insidious onset and is the most infectious period.</p> <p>Risk of acquisition</p> <p>Risk of infection decreases after administration of appropriate antibiotics but treated patients may be infectious for up to five days. Nonimmunised or partially immunised children are at risk of infection. Immunity has been shown to wane in adults, so teenagers and adults are also at risk. HCWs involved in the care of nonimmunised children should be aware that adult pertussis does occur.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions, droplet transmission must be observed (refer section 2). Known cases should be accommodated in a single room for at least five days after starting appropriate antibiotic treatment. Suspected cases should be isolated from young children and infants, particularly those not immunised. If there has been inadvertent exposure of patients to an infectious individual with pertussis in the previous 10 days, then erythromycin prophylaxis should be offered.</p> <p>Infants in Australia are immunised with acellular pertussis vaccine, given together with diphtheria and tetanus as DTPa vaccine or with diphtheria, tetanus and hepatitis B virus as DTPa–hepB¹.</p>

	<p>Health care workers</p> <p>HCWs diagnosed with pertussis infection must be treated and rostered to avoid contact with susceptible patients until five days after the start of effective antibiotic therapy. HCWs with persistent cough should be tested for pertussis, and similarly excluded from patient contact until the result of the test is known.</p> <p>It is not currently recommended that pertussis vaccines be used after eight years of age, although the use of acellular pertussis vaccines in adults is currently being tested. If there has been inadvertent exposure of HCWs to an infectious individual with pertussis in the previous 10 days, then erythromycin prophylaxis should be offered. Chemoprophylaxis is not routinely recommended for HCWs caring for infected children.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2003 National Health and Medical Research Council (NHMRC) <i>The Australian Immunisation Handbook</i> 9th edition 2008. NHMRC <i>The Control of Pertussis in Australia</i> 1997 CDC Pertussis fact sheet http://www.health.nt.gov.au/Centre_for_Disease_Control/Publications/CD_C_Factsheets/index.aspx
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ NHMRC 2003

30.6 Staphylococcal infection

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with coagulase-positive strains of <i>Staphylococcus aureus</i> and less commonly coagulase-negative staphylococci</p> <p>Clinical manifestations</p> <p><i>Staphylococcus aureus</i> commonly causes cellulitis and wound infections. It may also cause more serious conditions such as osteomyelitis and bacteraemia. Enterotoxin-producing staphylococci may also cause food poisoning.</p> <p>Occurrence</p> <p><i>Staphylococcus aureus</i> is present on the skin and in the nose of approximately 30–50% of the general population, and may be more common in HCWs.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Usually an asymptomatic carrier, or a patient with a purulent staphylococcal lesion, is the source of infection.</p> <p>Mode of transmission</p> <p>Methicillin-resistant <i>Staphylococcus aureus</i> is discussed in section 33.</p> <p><i>Staphylococcus aureus</i> is transmitted by direct contact with a colonised or infected person. Airborne transmission also occurs, but to a lesser extent. Nasal secretions contain large numbers of bacteria that will contaminate the hands. Staphylococci can penetrate into the deeper layers of the skin, where they live and multiply in the pores and hair follicles. Hands colonised in this way can be washed and scrubbed without removing the organisms. Antiseptic lotions may help to reduce the skin carriage of staphylococci.</p> <p>Risk of acquisition</p> <p>The risk of transmitting organisms from HCW to patient depends on the underlying medical condition of the patient, on the extent of skin shedding by the HCW and on the extent of contact between the two. Infections are relatively common among patients, who may themselves sometimes be carriers and heavy shedders of the microorganisms.</p> <p>HCWs with exfoliative skin conditions are at increased risk of both acquiring and transmitting infection. HCW carriers, including asymptomatic nasal carriers, who maintain high standards of hygiene, implement standard precautions, and do not have either an exfoliative skin condition or overt sepsis (e.g., paronychia) are unlikely to transmit significant numbers of staphylococci. Sinusitis, in particular, may be associated with heavy shedding.</p> <p><u>Management</u></p> <p>Patients</p> <p>Standard precautions must be observed (refer to section 1).</p> <p>Identification by clinical assessment of those patients with presumptive staphylococcal sepsis should be made. Routine laboratory screening for</p>

	<p>colonisation is not warranted.</p> <p>If a patient is excreting large numbers of <i>Staphylococcus aureus</i>, (e.g., from an infected wound), they should be accommodated in a single room with its own toilet and bathing facilities. Standard precautions must be maintained.</p> <p>If a patient has a <i>Staphylococcus aureus</i> respiratory tract infection and is dispersing the organism into the air, (e.g., by cough), then the patient should preferably be accommodated in a respiratory isolation room with negative pressure ventilation.</p> <p>Measures to protect patients from staphylococcal infections are best directed at identifying heavy shedders.</p> <p>Contamination of food with enterotoxin-producing <i>Staphylococcus aureus</i> can cause food poisoning. Staphylococcal sepsis on the hands of HCWs preparing or handling food is the most likely source.</p> <p>Health care workers</p> <p>HCWs with conditions that predispose them to heavy shedding should be identified by verbal medical history and examination. The degree of shedding can be assessed by culturing sites of potential carriage, (e.g., skin lesions, anterior nares, axilla and groin) but routine laboratory screening for colonisation is not warranted. If an outbreak occurs, selective screening may be necessary.</p> <p>Heavy shedders should not be rostered to work in high-risk areas, but should be suitably redeployed. Preclude people with skin lesions from clinical contact and food preparation unless lesions can be fully covered.</p> <p>HCWs with predisposing conditions (e.g., dermatitis) should be rostered away from patients known to be infected with <i>Staphylococcus aureus</i>.</p> <p>Gloves must be worn when contact is made with infected lesions, (i.e., standard precautions). Hands must be thoroughly washed before and after significant patient contact.</p> <p>Instruments and environment</p> <p>Routine reprocessing for instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) should be employed.</p> <p>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>

Compliance and responsibilities

- Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
- The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken.
- Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required.
- Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

30.7 Group A Streptococcal infection

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with (beta haemolytic) Group <i>Streptococcus</i> (GAS or <i>Streptococcus pyogenes</i>)</p> <p>Clinical manifestations</p> <p><i>Streptococcus pyogenes</i> is a common cause of pharyngitis, skin infections such as cellulitis, and wound infections. It is also a cause of scarlet fever and rheumatic fever and can contribute to more serious conditions, such as necrotising fasciitis and bacteraemia. GAS infections are sensitive to penicillin, although the response can be slow in invasive infections, (e.g., bacteraemia).</p> <p>Antibiotic therapy relatively quickly decreases the numbers of bacteria present in wounds and rapidly lowers the risk of cross-infection.</p> <p>Occurrence</p> <p>GAS pharyngitis occurs more frequently in temperate climates than tropical zones. The age/frequency distribution is unimodal, with a peak at 6–12 years of age. It is uncommon in children less than three years of age. Cases occur throughout the year, but in southern states peak in late winter and early spring.</p> <p>GAS impetigo occurs throughout the year — most frequently in young children in late summer and autumn. Erysipelas and scarlet fever occur sporadically, with seasonal and geographic distributions similar to GAS pharyngitis.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Outbreaks of health care associated infection have been traced to asymptomatic carriers of the organism. Pharyngeal, nasal, skin, anal and vaginal carriers have been implicated. Patients with overt disease, such as impetigo and pharyngitis, are also infectious. Outbreaks of pharyngeal infections have followed ingestion of contaminated foods, particularly milk, eggs and their products.</p> <p>Mode of transmission</p> <p>Aerosol transmission by expelled respiratory secretions from symptomatic patients or asymptomatic carriers is common. Patients with purulent discharges are generally infectious for up to 24 hours after the start of appropriate therapy. Infection may sometimes occur through direct contact with contaminated fomites.</p> <p>Risk of acquisition</p> <p>Most people are generally susceptible to GAS pharyngitis or scarlet fever, but some have developed immunity due to sub clinical infection.</p> <p><u>Management</u></p> <p>Patients</p> <p>Acute septic lesions (impetigo, cellulitis, paronychia) and acute pharyngitis should be assessed for pathogenic streptococci.</p> <p>If a patient is excreting large numbers of these organisms from an infected</p>

	<p>wound, they should be accommodated in a single room with its own toilet and bathing facilities. Standard precautions (i.e., gloves when wounds are dressed or examined) must be used when attending these patients (refer to section 1). If a patient has a group A streptococcal respiratory tract infection, and is dispersing this organism into the air (e.g., by cough), additional precautions (droplet transmission) should be implemented in addition to standard precautions for at least the first 24 hours of effective antibiotic treatment (refer to section 2). The patient should preferably be accommodated in a respiratory isolation room with negative pressure ventilation</p> <p>Health care workers</p> <p>Acute septic lesions (impetigo, cellulitis, paronychia) and acute pharyngitis should be assessed for pathogenic streptococci. Clinical contact staff with GAS lesions must cover those lesions and be given systemic and local treatment. Similarly, HCWs with acute GAS pharyngitis should receive antibiotic treatment and must be precluded from direct patient contact for at least the first 24 hours.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) should be employed.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</small></p>
Application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i>
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

30.8 Tuberculosis (TB)

Policy statement	All patients with suspected or confirmed infectious TB who are admitted to hospital should immediately have appropriate isolation precautions initiated
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Tuberculosis (TB) is caused by infection with <i>Mycobacterium tuberculosis</i> complex, predominantly <i>M. tuberculosis</i>. Disease due to <i>M. bovis</i> or <i>M. africanum</i> is only occasionally reported in Australia.</p> <p>Clinical manifestations</p> <p>The great majority of initial infections with <i>M. tuberculosis</i> or related species are asymptomatic with approximately 90–95% latent carriers who have a lifelong risk of developing clinical (active) disease, approximately 10% develop clinical disease. About half of these develop disease in the first five years after infection and the other half later in life. The risk of developing disease is much greater in infants and young children, and in those with impaired immune function.</p> <p>Early clinical symptoms include fatigue, weight loss, fever and night sweats. In more advanced disease, hoarseness, cough with blood-stained sputum and chest pain are common.</p> <p>Occurrence</p> <p>There are approximately 1000 new cases of TB notified each year in Australia, of which 60–70% are pulmonary TB. Extra pulmonary TB is much less common, but infection can occur in any organ or tissue, including meninges, lymph nodes, pleura, pericardium, kidneys, bones, joints, larynx, skin, peritoneum, intestines and eyes. Miliary (disseminated) TB may also occur.</p> <p>About 75% of notified cases of pulmonary TB are bacteriologically confirmed, with less than 50% of bacteriologically confirmed cases being sputum-smear positive for acid-fast bacilli (i.e., the most important form of TB in terms of transmission of infection).</p> <p>In the Northern Territory, the disease is 3 to 4 times more common than the Australian average (incidence rate of 15 to 20 per 100,000 per year in recent years). This is explained by the relatively high proportions of Aboriginal people and migrants from countries with a high incidence of TB.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Symptomatic or asymptomatic people with viable bacilli in their sputum are infectious. Untreated or inadequately treated patients may be sputum positive intermittently for months or years. Children with primary TB are generally less infectious. Patients usually become noninfectious within a few weeks of beginning appropriate therapy. The mean time for cultures to convert to negative in the RDH TB patients is 4 weeks.</p> <p>Mode of transmission</p> <p>TB is usually transmitted by exposure to airborne droplet nuclei produced by people with pulmonary or laryngeal disease, during coughing and sneezing. Prolonged close contact with such patients increases the risk of transmission.</p> <p>The aerosol droplets of less than 5 µm diameter produced by TB patients contain acid-fast bacilli (AFB). These droplets can remain afloat and viable</p>

in the environment for 4 hours unless they are removed by planned infection control procedures. When inhaled, the acid-fast bacilli can settle in the lungs, where they may result in TB infection where the person remains asymptomatic but the bacilli remain viable but dormant for the lifetime of the new host. People with TB infection of this nature without evidence of clinical disease (i.e., they do not have the disease) are not infectious. Not all of those who have progressed to active pulmonary TB have respiratory symptoms capable of producing droplet nuclei into the environment and onto new hosts.

It should be emphasised that HCWs can also be exposed during procedures such as cough induction, bronchoscopy, intubation and autopsy, particularly when these involve a patient with undiagnosed TB. Other respiratory tract sites (e.g., in laryngeal TB) are also a significant source of organism transmission. Infection by direct contact with mucous membranes or skin lesions is very rare.

Bovine TB may result from drinking unpasteurised infected milk or by aerosol transmission from infected animals to farmers or animal handlers.

Risk of acquisition

The risk of acquisition is related to the degree of exposure to the infectious agent. The greatest risk of disease occurs from 6–12 months after exposure. For people with latent TB infection (LTBI), susceptibility to reactivation is increased in those with immunosuppression, or debilitating diseases such as diabetes, cancer and renal failure, and in those who engage in substance abuse or who are malnourished. Reactivation of LTBI accounts for a large proportion of cases in elderly people.

Management

- Patients presenting to ED or clinic with signs and symptoms of pulmonary TB must be placed in airborne precautions as soon as possible. (Refer to algorithm 5).
 - If patient is to be admitted arrange admission without delay.
 - Patients suspected of having or known to have pulmonary TB are to be accommodated in a negative pressure room with the door kept closed. Adults on 4B Medical Ward and children on 7B Paediatric Isolation Ward. Patients remain in isolation until consecutive clearance sputum smears collected over three separate days have been smear-negative for AFB " i.e., no AFB's seen in the Ziehl–Neelsen (ZN).
 - TB has priority for negative pressure isolation rooms. SARS is an exception to this rule (refer to section 29.15)
 - Staff and visitors entering the room of a patient who is sputum smear-positive are required to wear a respiratory P2 classified mask (duckbill style particulate filter masks).
 - Smear-positive patients are not to leave their rooms for recreational purposes without the approval of their treating physician and, if room leave is approved, the patient must wear a surgical mask while inside the hospital building. This must be clearly explained to the patient and staff should arrange to escort the patient while on their recreational visits out side of the building.
 - Smear positive patients visiting other sections of the hospital for diagnostic purposes are to wear surgical masks and be accompanied by a staff member (level dependant on patient condition/need).
 - Smear-positive patients are not to freely roam the hospital building
-

visiting other patients in hospital.

- Difficulties maintaining airborne precautions for a smear-positive patient must be brought to the attention of the treating physician/ TB Clinic and Infection Control. (This includes poor patient compliance, lack of suitable facilities etc).

Cough and aerosol generating procedures

Aerosol-inducing procedures include:

- Endotracheal intubation and suction.
- Diagnostic sputum induction.
- Bronchoscopy.
- Diagnostic aspiration or irrigation of tuberculosis abscesses and wounds.
- Certain laboratory and autopsy procedures.

These procedures should only be performed by trained staff in appropriate isolation areas. Following the procedure, patients should remain in the isolation area until they have ceased coughing and should be instructed to cover their mouth and nose with a handful of tissues when coughing or sneezing.

Patients

Additional precautions, airborne transmission must be observed (refer to section 2). People (HCWs and visitors) should wear a P2 particulate respirator (refer to section 2.) when entering a TB patient's room until effective treatment has been verified by 3 consecutive sputums or by direction by treating physician. Care should be taken to ensure that all people who use these masks are instructed in the correct fit and wearing of the masks. When the patient is required to leave a TB isolation room (e.g., for chest X-ray), they should wear a surgical the mask if their TB is considered infectious. TB patients should be educated to cover their mouths and noses while coughing or sneezing, and to dispose of used tissue in a clinical waste bag (yellow).

Medical procedures that present a particular risk of cross-contamination from an infectious patient include bronchoscopy and the use of respiratory and anaesthetic apparatus.

If active TB occurs during pregnancy, standard antituberculosis therapy (i.e., isoniazid, rifampicin, pyrazinamide and ethambutol) can be used safely under the direction of the TB clinic.

Immunocompromised patients should not be accommodated in the same area of the establishment as known or suspected TB cases.

Health care workers

HCWs working in TB-risk areas (medical wards, chest clinics, bronchoscopy units, radiology units, TB laboratories, HIV-dedicated wards and autopsy rooms) are at greatest risk of occupational exposure.

At the start of employment, all HCWs are required to undergo an initial two-step tuberculin skin test if previous tuberculin test is less than 10mm

HCWs should be retested yearly if their initial skin test is negative. This ensures appropriate exposure management and prophylaxis can be offered.

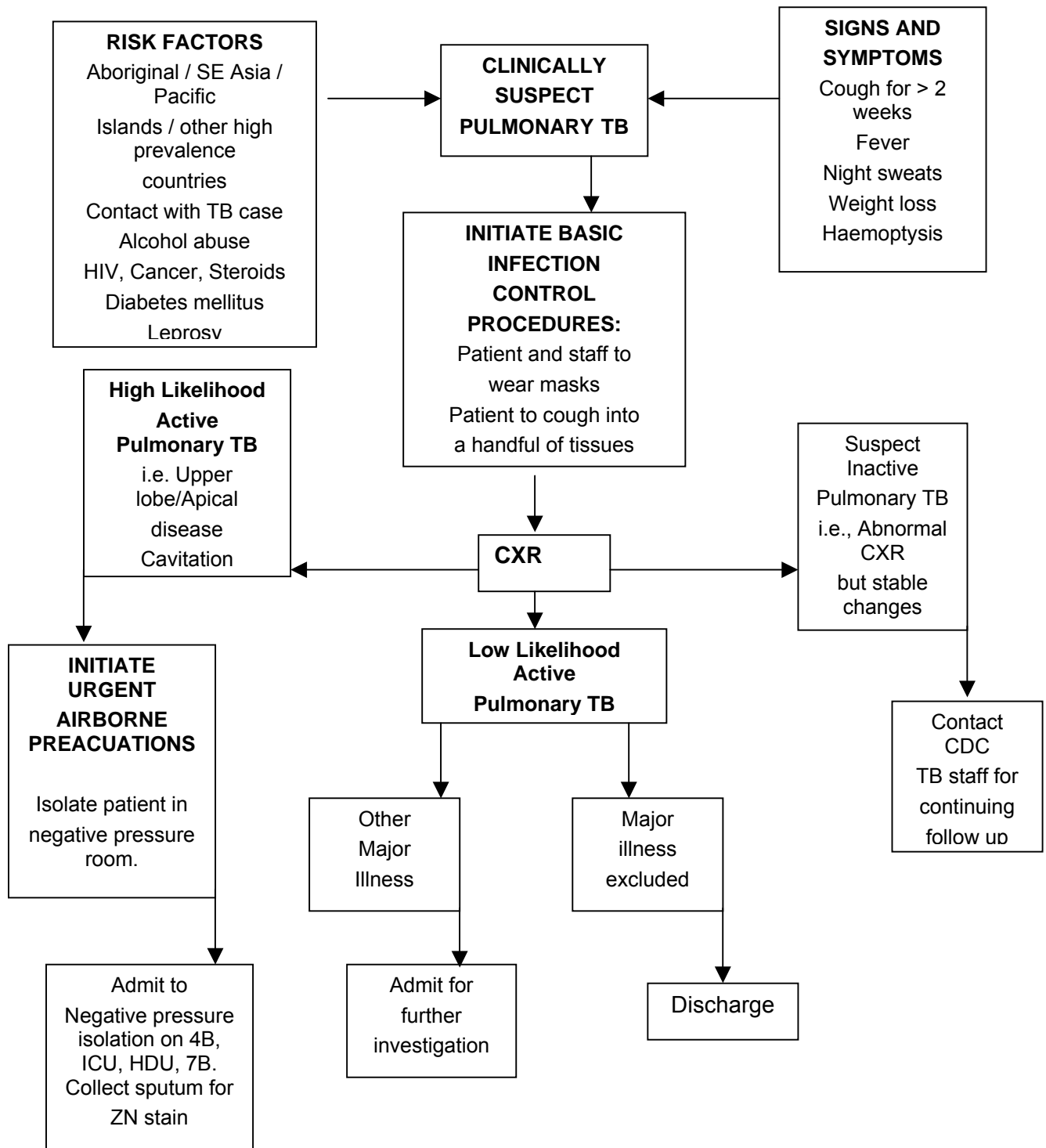
TB screening is at the TB Clinic in Block 4, RDH Campus. Mantoux screening for staff is on Mondays, Tuesdays and Fridays. No appointment is necessary. Or alternatively a Mantoux may be obtained from Casuarina or

	<p>Palmerston Community Care Centres.</p> <p>HCWs who test positive should be followed up with a chest X-ray and clinical review at the TB clinic.</p> <p>Immunodeficient HCWs should not be involved in the care of patients with tuberculosis.</p> <p>Whenever a patient is diagnosed with active pulmonary TB, HCWs with a high risk of exposure will be investigated. Their tuberculin skin test status, nature of exposure and other factors associated with active infection will be assessed, by the TB clinic.</p> <p>BCG is a suspension of live attenuated <i>M. bovis</i> and remains the only vaccine available for TB. The aim of BCG vaccination is not to prevent transmission of MTB but rather to prevent progression of infection to disease. Its main role is in preventing meningeal and disseminated (miliary) TB in young children for whom its efficacy is >80%. It is not recommended in Australia for routine vaccination of adults.</p> <p>BCG is recommended for the following:</p> <ul style="list-style-type: none"> • Aboriginal neonates living in regions of high incidence • Neonates born to patients with leprosy (refer to the guidelines for the control of leprosy in the NT) • Children under 5 years who will be living in Aboriginal communities or traveling to countries of high TB prevalence for periods longer than 3 months. <p>Instruments and environment</p> <p>Routine reprocessing for instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) must be employed.</p> <p>Adapted from:</p> <p>Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia.</p> <p>CDC Guidelines for the Control of TB in the Northern Territory 2002</p> <p>Reviewed by: RDH TB clinic June 2004</p>
Scope and application	All staff
Review cycle and responsibilities	Due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008 • National Health and Medical Research Council (NHMRC) <i>The Australian Immunisation Handbook</i> 9th edition 2008. • CDC Tuberculosis Control Guidelines http://www.health.nt.gov.au/Centre_for_Disease_Control/Publications/CD_C_Protocols/index.aspx

Compliance and responsibilities

- Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.
- The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken.
- Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required.
- Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.
- At the start of employment, all HCWs are required to undergo an initial two-step tuberculin skin test if previous tuberculin test is less than 10mm
- Difficulties maintaining airborne precautions for a smear-positive patient must be brought to the attention of the treating physician/ TB Clinic and Infection Control

Algorithm 5: Suspected pulmonary tuberculosis Emergency Department protocol¹



¹ CDC Guidelines for the Control of TB in the Northern Territory 2002

30.8.1 Strategy for Managing Suspected Pulmonary Tuberculosis (TB) Patients and Preventing Airborne Transmission During Bronchoscopy

Policy statement	Management of patients, staff and environment will comply with definitions and protocols as set out below;
Objectives	Prevention of transmission of TB during bronchoscopy.
Definitions/ Protocol	<p>Bronchoscopy should generally be avoided in patients with confirmed tuberculosis until such patients have received adequate drug therapy. However bronchoscopy is a useful diagnostic procedure in patients with lung disease where tuberculosis is in the differential diagnosis. All bronchoscopies require the use of Standard and Additional precautions as outlined in this manual.</p> <p>Where tuberculosis is in the differential diagnosis, the following extra precautions for bronchoscopy should be utilised:</p> <ul style="list-style-type: none"> • Schedule any suspected TB patient as the last person in the list to provide maximum time for adequate air changes. If there is more than one such patient on a list then put the patient clinically most likely to have TB last. • The use of a negative pressure ventilation room is preferable. • Keep the door closed at all times to minimise contamination to corridor airflow. • Bronchoscopy suites should be equipped with an air filter that can provide at least 14 air exchanges per hour. (RDH Endoscopy suite 28/hour, OT-1 35/hour, OT-3 23.8/hour, please refer to engineering for other areas) • All staff in the room are to wear a close fitting disposable P2 (N95) filter mask. • Recovery of the patient should be in the procedure room rather than in the regular open recovery facilities. • Baseline Mantoux testing is mandatory for all staff involved in bronchoscopies. If positive then review by Chest Clinic at CDC. If negative then yearly repeat Mantoux is recommended.
Scope and application	All staff involved in the care of TB patients having a bronchoscopy.
Review cycle and responsibilities	Infection control policies next due to be reviewed 2010 unless prior need arises due to changes in CDNA guidelines
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting 2004</i> • HICPAC – Guidelines for environmental Infection Control in Health Care Facilities 2003. • Australian Government Dept of health and aging, infection control guidelines 2004. • Genca guidelines 2nd Ed. Infection control in endoscopies 2004 • TSANZ – position paper. Fibre-optic bronchoscopy in adults 2001.
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employer has a responsibility to provide a safe work place and safe system of work in accordance with the work Health Act.

	<ul style="list-style-type: none">• HCWs involved with the exposure prone procedure have a responsibility to comply with the above protocols.• Each unit has a responsibility to provide staff with education regarding correct procedures for exposure prone bronchoscopy.
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30.9 Creutzfeldt–Jakob disease

Policy statement	Clinical judgement combined with the definitions and procedures outlined below will be used for the management of patients and their environment.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p>Refer to the 'Infection control guidelines for the prevention of transmission of infectious diseases in the health care setting for detailed information regarding identification of risk and management'. Part 4 section 31 is found at:</p> <p>http://www.health.gov.au/internet/main/Publishing.nsf/Content/icg-guidelines-index.htm</p> <p>Guidelines for the management in the operating theatres</p> <p>Operating rooms</p> <p>Patients presenting for operative procedures involving higher infectivity tissue, must have their risk status assessed prior to the procedure.</p> <p>The high risk tissues are:</p> <ol style="list-style-type: none"> Brain, pituitary or dura mater Cranial and dorsal root ganglia Spinal cord Eye (Retina/Optic Nerve) Olfactory Epithelium <p>The surgeon conducting the procedure is responsible for conducting the risk assessment prior to the consent.</p> <p>If the patient falls into a risk group (HIGH or LOW), specific additional infection control practices must be followed as per appendix 3.</p> <p>Notification</p> <p>Notification of a patient defined as "at risk" (high or low) should take place as far in advance as possible. Adequate time must be allowed for preparation of correct infection control practices outlined in tables 20 to 23.</p> <p><u>Surgical staff are responsible for notifying:</u></p> <ul style="list-style-type: none"> Anaesthetist in Charge or Deputy Clinical Nurse Manager of Operating Theatres <p><u>Clinical Nurse Manager is responsible for notifying:</u></p> <ul style="list-style-type: none"> Clinical Nurse Specialist Anaesthetics and Recovery Nursing Staff in the relevant theatre Manager of CSD Infection Control (to add CJD alert on patient records) Pharmacy Department to order 1 molar Sodium Hydroxide (40g to 1 litre of H₂O) approximately 10 litres and Acetic Acid 4% approximately 1 litre (to neutralise any left over Sodium Hydroxide) <p>Specific infection control procedures for high risk patients</p> <p>As well as standard precautions, additional precautions are required.</p> <p><u>Scheduling patient:</u></p> <ul style="list-style-type: none"> Schedule patients at the end of the day to allow adequate cleaning of the facilities, allow at least 2 hours Soiled areas of the Operating Room are cleaned with the 1 molar

	<p>Sodium Hydroxide solution and left standing for one hour.</p> <ul style="list-style-type: none"> • The operating room is then terminally cleaned as usual. <p><u>Training personnel:</u></p> <ul style="list-style-type: none"> • Personnel must be aware of CJD risks and trained in appropriate infection control procedures. • Keep the number of people involved in the procedure to an absolute minimum. • Traffic is restricted to necessary personnel only. <p><u>Protective apparel:</u></p> <ul style="list-style-type: none"> • All scrubbed, circulating and anaesthetic staff are to wear single use impervious long sleeve gowns, over a plastic apron. • Masks with attached shields are worn to protect the face and eyes. • Gloves should be worn at all times. The scrub team should wear double gloves. • Disposable caps. • Protective shoe covers must be worn. <p><u>Use of instruments:</u></p> <ul style="list-style-type: none"> • Disposable instruments should be used whenever possible. • Minimise the number of instruments and equipment required to the absolute essentials. • All unnecessary equipment, instruments and supplies are placed in the anteroom before the beginning of the procedure so they are accessible if needed during the case. • Use single use instruments/equipment where ever possible (refer to CJD kit in theatre) • No power instruments (e.g. power drills, saw, craniotome) are to be used. • All instruments, even if not normally regarded as single use, MUST be discarded as clinical waste for incineration. • No sets of implantable medical devices (e.g. plates, screws) are to go into the operating room. If implants are necessary, the surgeon must select what he/she will require and the set is removed from the operating room before the incision is made. • It is essential to maintain a one-way flow of instruments for all procedures • No instrument to leave the theatre during the procedure¹ • No flash sterilisation of instruments². • Cover operating theatre table with waterproof drapes. • No items requiring laundering are to be used. <p><u>Disposal of rubbish and linen:</u></p> <ul style="list-style-type: none"> • All instruments, packs, sutures, drapes, clothing, linen, gloves, etc should be sealed in clinical waste bags with international Biohazard symbol (yellow) and discarded as clinical waste for incineration. (This applies even if the item would normally be regarded as reusable). • Needles and other sharps should be placed in appropriate sharps containers and discarded as clinical waste for incineration. • Do not discard suction tubing until all cleaning is completed. Use it to
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contain all cleaning liquids.

- Dispose of suction liner and tubing into clinical waste for incineration.

Decontamination:

- All instruments are discarded as clinical waste for incineration.
- Equipment, trolleys, operating table, floor and surfaces are drenched with 1molar Sodium Hydroxide (NaOH) solution and allowed to stand for at least one hour at room temperature.
- After one hour absorb the liquid with paper towels
- Place the towels immediately into (yellow) clinical waste bag.
- Seal securely, and dispose of as clinical waste for incineration.
- The operating room is then cleaned as usual end of day terminal cleaning.
- Any left over NaOH is neutralised with equal parts 4% acetic acid and discarded down the sluice

Specimens:

- Gloves will be worn.
- Collect in a leak-proof sealable container and enclose in a leak-proof, double compartment plastic bag as per routine specimen transport guidelines.
- Label clearly with patients' details. CJD risk must be documented on the pathology form to alert laboratory/other personnel.
- Dispose of all specimens/tissue as clinical waste for incineration.

Anaesthetics:

Equipment

Cover the anaesthetic machine with waterproof drape to prevent contamination from body fluids. Solutions used for the surface decontamination for prion disease will damage the surface of the anaesthetic machine.

Intubation:

- Use all disposable equipment.
 - Disposable facemasks.
 - Disposable laryngoscopes.
 - Disposable filter with ET mount.
- Bougies or introducers used for intubation must be discarded as clinical waste.

Any non-disposable equipment inadvertently used for a known CJD patient must be discarded as clinical waste for incineration

Regional Block

A spinal blockage should be avoided in the high-risk patient. Cerebrospinal fluid (CSF) is a potentially infectious body fluid for CJD, and carries the highest risk of transmission in the operating theatre along with the brain and the spinal cord. Use disposable tray.

Intravenous equipment

Discard as clinical waste (yellow).

Sharps to be discarded as clinical waste in approved sharps containers.

Specific infection control procedures for low risk patient

Standard Precautions must be adhered to for all procedures.

Additional Precautions are also required.

Scheduling patient:

- Schedule patients at the end of the day to allow adequate cleaning of the facilities. (Allow at least 2 hours). Soiled areas of the O.R. are cleaned with 1molar Sodium Hydroxide NaOH and left standing for one hour. The operating room is then cleaned as routine terminal cleaning.

Training personnel:

- Personnel must be aware of CJD risks and trained appropriate infection control procedures.
- Keep the number of people involved in the procedure to an absolute minimum.
- Traffic is restricted to necessary personnel only.

Protective apparel:

- All scrubbed and circulating and anaesthetic staff will wear single use disposable long sleeve gowns, over a plastic apron.
- Masks with attached shields are worn to protect the face and eyes.
- Gloves are worn at all times. The scrub team wears double gloves.
- Disposable caps.
- Protective shoe covers must be worn.

Use of instruments:

- Minimise the number of instruments and equipment required to the essentials.
- Use single use instruments/equipment in preference to reusable (refer to CJD kit in theatre)
- All unnecessary equipment, instruments and supplies are removed from the O.R. before the beginning of the procedure.
- No reusable or hard-to-clean items are used (e.g. power drills, reusable biopsy needles, or instruments with small lumens).
- No sets of implantable medical devices (e.g. plates, screws) are to go into the O.R. If implants are necessary, the surgeon must select what he/she will require, and the set is removed from the O.R. before the incision is made.
- All instruments and other material subject to re-use should be kept moist between the time of exposure to infectious material and subsequent decontamination and cleaning
- It is essential to maintain a one-way flow of instruments for all procedures.
- No instrument to leave the theatre during the procedure.
- No flash sterilisations of instruments.
- Cover operating theatre table with waterproof drapes.
- No items requiring laundry are to be used.

If, during a normal case the patient is suspected to be suffering from any form of CJD, all unnecessary items should be removed from the theatre and the unsterile kit brought in for cleanup and protection of staff. All re-suable instruments will be quarantined by placing in the impervious plastic

container with a close-fitting lid and sealed with heavy-duty tape. The box must be labelled with the patient's identification details, the surgical procedure for which the instruments were used and signed and dated.

The box will be stored in a designated place in CSD until the results of further investigation are known.

If the patient is confirmed as suffering from any form of CJD, the sealed box and its contents must be incinerated.

If an alternative and confirmed diagnosis is established, the instruments may be removed from the box and processed in the normal way.

All reusable instruments **MUST** be able to be decontaminated by the method described below or incinerated at the end of the procedure.

Decontamination:

No flash sterilisation of instruments

- Wear protective apparel.
- Operating room scrub personnel should wipe the instruments, bowls and receivers using a wet sponge to clean the debris off the instruments. All box joints and jaws are opened. Instruments should remain moist and not be allowed to dry.
- Wash in an enzymatic cleaning solution with particular attention to joints, crevices and hollow items for minimum of 5 minutes.
- All items are rinsed in water.
- Place instruments in container, cover with 1 molar Sodium Hydroxide solution, seal and send to CSD.
- Discard devices that cannot be effectively cleaned or which require low temperature sterilisation into a clinical waste bag or sharps container. These items will be incinerated.
- Suction enzymatic cleaning solution and rinse water into disposable suction liners and place in clinical waste bag for incineration.
- The soiled wet sponges must be disposed in a clinical waste bag for incineration.
- Contaminated instruments, bowls and receivers must be transported in a large box with a sealed lid to the CSD department. This box is clearly labelled CJD.
- After hours, the contaminated instruments are immersed in 1 molar Sodium Hydroxide for one hour (approx 2 litres). After one hour of immersion the instruments and the container are rinsed with tap water.
- Leave instruments in the same container, label as CJD instruments, seal container and transport to CSD for processing (autoclave @ 134° C for 18 minutes in downward displacement steriliser or 1 hour in high pre vac steriliser).
- All other disposable material and waste is sent for incineration.
- Equipment, trolleys, operating table, floor and surfaces should be drenched with 1 molar Sodium Hydroxide (NaOH) solution and allowed to stand for at least one hour at room temperature. The operating theatre is then cleaned as usual end of day terminal cleaning.
- Use paper towels to absorb the liquid.
- Place the towels immediately into clinical waste bag.

- Seal securely, and dispose of as clinical waste for Incineration.
- Do not discard suction tubing until all cleaning is completed. Use it to contain all cleaning liquids.
- Extra NaOH is neutralised with equal parts 4% acetic acid and discarded in the sluice.

Disposal of rubbish and linen:

- Normal laundering is suitable for linen that is not soiled with neural tissue, CSF or large volumes of blood.
- Non-disposable protective clothing/linen soiled with blood CSF, brain or neural tissue should be discarded as clinical waste for incineration.
- All disposable instruments, packs, sutures, drapes, clothing, linen etc should be sealed in a clinical waste bag and discarded.
- Needles and other sharps should be placed in appropriate sharps containers and discarded as clinical waste after the case.
- Discard suction liner and tubing into clinical waste for incineration.

Specimens:

- Gloves are worn.
- Collect in a leak-proof sealable container and enclose in a leak-proof, double compartment plastic bag as per routine specimen transport guidelines.
- Label clearly with patients' details. CJD risk must be documented on the pathology form for laboratory/other personnel.
- Disposal of all specimens as clinical waste for incineration.

Anaesthetics:

Equipment

- Cover the anaesthetic machine with a waterproof drape to prevent contamination with body fluids. Solutions used for the surface decontamination for prion disease will damage the surface of the anaesthetic machine.

Intubation:

- Use all disposable equipment.
 - Disposable facemasks.
 - Disposable laryngoscopes.
 - Disposable filter with ET mount.
- Bougies or introducers used for intubation must be discarded as clinical waste.

Regional Block

CSF is a potentially infectious body fluid for CJD, and carries the highest risk of transmission in the operating room along with the brain and spinal cord.

- Use disposable tray.

Intravenous equipment

- Discard as clinical waste.
- Sharps to be discarded as clinical waste in approved sharps containers.

Creutzfeldt-Jakob Disease Kit

Sterile

- Disposable impervious gowns x5
- Disposable drapes
- Disposable Instruments
- Scalpels
- Towel Clips
- Scalp clips applicators and packets of clip
- Brain needles
- Monopolar diathermy
- Bipolar diathermy
- Disposable cranial perforator
- Disposable irrigators
- Disposable Gigli saws
- Disposable trolley drapes

Unsterile

- Copy of Royal Darwin Hospital protocol
- Plastic sheeting to cover operating table and anaesthetic machine
- Disposable, unsterile impervious long sleeve gowns for the circulating staff x 5
- Box of masks with face shields
- Specimen containers
- Yellow clinical waste bags x6.
- Paper towels
- Diathermy plate with attached lead
- Small sharps container
- Large container for enzymatic cleaner
- Large box to transport all instruments to CSD
- Disposable razor.
- Disposable suction liners
- Tape to seal containers
- Label for container

Where there is accidental exposure to HCW.

- Follow normal exposure injury policy, including first aid. Refer to section 27.

Health care worker responsibilities

Laboratory staff

In the clinical pathology laboratory, specimens from both higher- and lower risk individuals should be treated using standard precautions. However, in the anatomical/surgical pathology laboratory, appropriate containment and reprocessing procedures are necessary when handling brain tissue and other surgical specimens from patients in either risk group.

Cut-up/blocking of tissue samples from either risk category should be

	<p>performed in a biohazard hood, preferably located in a circumscribed area that can be easily cleaned. Because of the known resistance of CJD infectivity to aldehydes and alcohols, the safest way to handle biopsy material is by fixation of small blocks of tissue, followed by immersion in formic acid for one hour. After washing, these blocks can then be processed routinely for histology.</p> <p><u>Instruments and equipment</u> Refer to appendix 3</p> <p><u>Disinfection and sterilisation</u> Refer to appendix 3</p> <p>Waste management, spills and linen</p> <p><u>Spills</u> Spills of brain or CSF from a higher-risk CJD patient on a benchtop or floor should be cleaned with sodium hydroxide according to the guidelines given in Table 23. Spills of blood, other body fluids and tissues from patients in either the lower or higher-risk CJD categories should be cleaned using standard spills management procedures as described in section 14.</p> <p>Cleaning equipment (spills kit) A sodium hydroxide spills kit (that includes occupational health and safety (recommendations) for higher-risk CJD spills should be available in areas of increased risk, such as neurosurgery units, mortuaries and laboratories.</p> <p>Linen and laundry Disposable linen and PPE should be used when neurosurgery, ophthalmological surgery or interventional neuroradiology is carried out on higher-risk CJD patients. Used or contaminated linen should be disposed of by incineration. Reuseable linen and personal protective equipment contaminated with brain tissue from higher- or lower-risk CJD patients should be disposed of by incineration.</p> <p>Reuseable linen and PPE contaminated with blood, other body fluids or tissues should be laundered normally.</p> <p>Adapted from:</p> <ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • <u>Guidelines for the management in the operating theatres</u> Policy developed by Lesley Stewart operating Theatre Royal Darwin Hospital, Rosie Blackford Acting Director Infection Control Royal Darwin Hospital. Adapted in part from Flinder's Medical Centre Guidelines for patient management of CJD in the Operating Theatre.
Scope and Application	Operating theatre staff, CSD staff and everyone responsible for caring for patients with or at risk of CJD
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee and ACHS using clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008

	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting. Update 2007 http://www.health.gov.au/internet/main/Publishing.nsf/Content/icg-guidelines-index.htm
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified. All patients presenting for operative procedures must have their risk status assessed prior to the procedure. All HCWs and other people who are responsible for caring for patients with CJD should be trained in appropriate CJD infection control and risk management procedures that may affect personal safety.

¹ Strengthening Diagnosis and Surveillance of Creutzfeldt–Jakob Disease WHO 2000

² Allars 1994 in ICG 2004

Managing Other

31.1 Managing Pediculosis (head lice)

Policy statement	Clinical judgement combined with the definitions and procedures outlined below will be used for the management of patients and their environment.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infestation with <i>Pediculosis humanus capitis</i> (head lice). 2–3mm wingless insects that feed on human blood and vary in colour.</p> <p>Occurrence</p> <p>Head lice infestations are a worldwide phenomenon, occurring mainly among school children and in other institutional settings. Infestation is more a social problem than an infectious disease hazard, as head lice do not transmit any diseases. Head lice can infest any person regardless of socioeconomic status or cleanliness.</p> <p>Clinical manifestations</p> <p>Infestation may occur in the hair, eyebrows and eyelashes. The lice cause pruritic lesions on the scalp, neck and shoulders, which may lead to crusting and matting of hair. In extreme cases, the lesions may lead to the development of secondary bacterial infections.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Humans are the only source of infestation. Any person infested with either lice or eggs (nits) is infectious.</p> <p>Mode of transmission</p> <p>They cannot jump or fly, transmission occurs either by direct head-to-head contact, or via hair-care articles such as combs, brushes and hair accessories.</p> <p>Transmission to HCWs</p> <p>During provision of care is not highly likely unless direct head-to-head contact occurs.</p> <p>Risk of acquisition</p> <p>Susceptibility is universal. Head lice leave a febrile host, so fever can increase the risk of transmission.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions, contact transmission (refer to section 2.1) must be observed for at least 24 hours after appropriate treatment is initiated. There are a number of effective treatments available, but lice can become resistant to specific treatments.</p> <p>Chemical treatments:</p> <ul style="list-style-type: none"> • Permethrin (e.g., Pyrifoam, Quellada, Lyclear) • Pyrethrins (e.g., Banline, Meditox, Paralice) • Malathion (e.g., Lice Rid, KP 24) <p>No treatments kill eggs so treatment must involve two applications seven days apart. Treatments must be used as per instructions.</p> <p>Further information on treatment can be obtained from NTG fact sheet 'head lice and nits' www.health.nt.gov.au</p>

	<p>Health care workers</p> <p>HCWs with head lice do not pose a risk to others unless direct head-to-head contact is likely to occur (e.g., during patient handling procedures). This type of contact should be avoided until no lice or eggs are visible.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments (refer to sections 10) and routine cleaning of the environment (refer to section 13) should be employed.</p> <p>Adapted from:</p> <ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia. Department of Health and Community Services 'head lice and nits' www.health.nt.gov.au, Northern Territory Government.
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 CDC Head Lice fact sheet http://www.health.nt.gov.au/Centre_for_Disease_Control/Publications/CD_C_Factsheets/index.aspx
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

31.2 Melioidosis

Policy statement	Management of patients and their environment will comply with definitions and procedures outlined below.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology Melioidosis is caused by the soil saprophyte <i>Burkholderia pseudomallei</i>.</p> <p>Clinical manifestations Wide spectrums of presentations occur. Pneumonia is the commonest presentation. There is up to 50% mortality rate among patients presenting with severe septicaemic pneumonia. Many patients present with milder forms of pneumonia that responds well to appropriate antimicrobials. Other presentations of melioidosis include skin abscesses or ulcers, abscesses in organs such as the prostate, spleen, kidney and liver. Patients with fulminant septicaemia from multi-organ abscesses and unusual neurological illnesses such as brainstem encephalitis and acute flaccid paraplegia may also present. Most cases arise from recent acquisition of <i>B pseudomallei</i> however occasional patients may have chronic melioidosis or have reactivation of disease from a latent focus.</p> <p>Occurrence The disease occurs in Northern Australia and parts of the Asia-Pacific region. It is hyper-endemic in the Top End of the Northern Territory and, as in parts of northeastern Thailand, it is the commonest cause of fatal community-acquired septicaemic pneumonia.</p> <p><u>Transmission</u></p> <p>Source of infection <i>Burkholderia pseudomallei</i> is an environmental organism found in soils and water in the Top End. The disease is far more prevalent in the wet season that falls between November to April. It is important to note that southern Australian hospitals may also see melioidosis cases among travellers to the Top End or overseas visitors to Southeast Asia. Melioidosis clusters in temperate Australia are attributed to animals imported from the north.</p> <p>Mode of transmission Most infection is thought to be acquired through percutaneous inoculation but inhalation is also well recognised.</p> <p>Risk of Acquisition Diabetes is the most important risk factor with around 40% of cases being diabetic. Excessive alcohol consumption, chronic renal disease, chronic lung disease and excessive kava drinking are also risk factors for melioidosis. While the majority of patients with melioidosis have one or more of these risk factors, melioidosis sometimes occurs in healthy children and adults.</p> <p>Ongoing case studies at RDH have identified at least 25 cases where a clear incubation period could be determined between the inoculating injury and the onset of symptoms. In these cases the incubation period ranged from 1-21 days with a mean of 9 days.</p> <p>As most cases of melioidosis occur during the monsoonal wet season and inoculation has been found the most likely mode of entry for <i>Burkholderia pseudomallei</i>, it is recommended that enclosed, waterproof shoes are worn when walking in wet, soggy soils. Rubber, waterproof gloves are recommended for gardening and other outdoor activities involving hand-soil</p>

	<p>contact.</p> <p><u>Management</u></p> <p>Patients</p> <p>Confirmed melioidosis pneumonia requires initial intensive therapy IV high-dose ceftazidime or meropenem plus high-dose cotrimoxazole for at least 14 days. This is followed by at least 3-month eradication therapy of oral high dose cotrimoxazole. Specific case-by-case advice on antimicrobials is available from Infectious Diseases Consultant/Registrar or Medical Microbiologist. Clinical and microbiological assessment is conducted to ensure treatment has been effective.</p> <p>Health Care Workers</p> <p>Specific transmission based precautions are not usually indicated as person to person transmission is very rare, masks are not usually indicated when treating melioidosis pneumonia patients. Standard precautions must be maintained to prevent possible nosocomial transmission.</p> <p>Instruments and the Environment</p> <p>Routine reprocessing of instruments and equipment (refer to section 10) and routine cleaning of the environment (refer to section 13) should be employed</p> <p>Information provided by Professor B Currie, Infectious Diseases Physician, RDH & Menzies School of Health Research</p>
Application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008
Compliance and responsibilities	<ul style="list-style-type: none"> Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. Infection Control is responsible for initial standard precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

31.3 Scabies

Policy Statement	Clinical judgement combined with the definitions and procedures outlined below will be used for the management of patients and their environment.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infestation with the mite <i>Sarcoptes scabiei</i>.</p> <p>Occurrence</p> <p>Scabies is a parasitic skin infestation that occurs globally. There is no seasonality in its incidence.</p> <p>Clinical manifestations</p> <p>The mite burrows under the skin, causing intense itching, especially in bed at night or after a hot bath or shower. Clinical symptoms may be different or even absent in the frail elderly or those with recent corticosteroid use, making diagnosis difficult during outbreaks in long-term care establishments.</p> <p>Presentation</p> <p>Early stage infestation presents as visible papules, vesicles or tiny linear burrows containing the mites and their eggs. In primary infestations, an extremely itchy rash develops after 2 to 6 weeks. This itch and rash only takes between 1 to 4 days to present when it is a repeat infestation.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Humans are the only source of infection and any person infested with either mites or eggs should be regarded as infectious. Patients with hyper infestation (Crusted Scabies) are highly infectious because they shed large numbers of mites in skin scales. (Refer to 'crusted scabies', section 31.4)</p> <p>Mode of transmission</p> <p>Transmission of scabies is by direct skin-to-skin contact. In health care establishments, they are mainly transmitted by intimate direct contact with an infested person, even when high levels of personal hygiene are maintained¹. Transmission to health care workers (HCWs) has occurred during activities such as sponge-bathing patients or applying body lotions.</p> <p>Transmission between patients may also be possible when patients are ambulatory. Transmission via inanimate objects such as clothing and bedding, is uncommon, and only occurs if the objects are contaminated recently before contact with the new host because the mites do not usually survive very long out of contact with human skin. However bedding and clothes of crusted scabies patients are potentially infectious for several days.</p> <p>Risk of acquisition</p> <p>Susceptibility is universal. Rarely, some people may suffer hyper infestation (Crusted Scabies) and these individuals are highly contagious. Residents and HCWs in long-term care establishments that house patients with scabies may be more at risk of infestation than HCWs and patients in acute care establishments, mainly due to the type and frequency of skin-to-skin contact during care.</p>

Management

Patients

Additional precautions, contact transmission (refer to section 2) should be observed for at least 24 hours after appropriate treatment is initiated. Consideration should be given, in consultation with an Infectious Disease specialist, to extending this period in the case of immunocompromised or heavily infested patients.

Scope of nurse initiated medication policy:

The *Nurse Initiated Medication policy* for the treatment of scabies refers to uncomplicated scabies infestation and does NOT include crusted (Norwegian) scabies. Patients with infected, crusted and / or weeping scabies infestation must be managed in accordance with specific case-by-case medical instructions.

Protocol:

All patients are assessed for possible scabies infestation on admission to Royal Darwin Hospital. Registered nurses following the regime detailed in this protocol initiate primary treatment of uncomplicated scabies.

Standard treatment regime:

- Shower/wash patient and ensure skin has dried and is cool before commencing treatment.
- Obtain scabicide listed on the following page for patient age and condition.
- A nurse must apply lotion to the patient. Self-administration gives an unsatisfactory result.
- Apply scabicide to body, including head, neck and scalp but avoiding mucous membranes.
- Dress patient in hospital attire and, with patient consent, send personal clothing to hospital laundry in red plastic bags labelled in black with patient name, ward and "wash for infection control".
- Ensure lotion is re-applied after hand or body washing.
- Shower/wash patient to remove lotion after the required length of contact time.
- Change bed linen and patient attire.
- Treat soft material furnishings with a surface insect spray.
- Arrange for family contacts to be treated. Utilise Community Care Services if necessary.
- Repeat treatment after one week, and advise patient that itching may persist for some time.

Scabicide treatment

5% Permethrin:

- Use for neonates < 2 months old

Alert:

- used for only 4 hours prior to bathing.
- Do not use 1% Permethrin Head lice lotion as resistance may result.
- Medical approval required for use on children less than 6 months of age.

	<p>5% Permethrin:</p> <p>Use for children > 2 months * and < 12 years old,</p> <ul style="list-style-type: none"> • Crusted Scabies • Multiple lesions, • Severe reaction to other lotions (i.e., Benzyl Benzoate) <p>Alert:</p> <ul style="list-style-type: none"> • Do not use 1% Permethrin Head lice lotion as resistance may result. • Medical approval required for use on children less than 6 months of age. • Length of application is 12 hours. (i.e., overnight) <p>Benzyl Benzoate:</p> <ul style="list-style-type: none"> • Adults with uncomplicated lesions. <p>Alert:</p> <ul style="list-style-type: none"> • Length of application is 24 hours. • For children under 12 years, product must be diluted 1:1 with water. • Avoid contact with eyes. If this occurs, flush with a large amount of water. <p><i>Some scabicides are contraindicated in pregnancy and other conditions. Before selecting a product for use, check any risk factors with Pharmacy.</i></p> <p>Health care workers</p> <p>HCWs with scabies will be rostered to avoid patient contact for 24 hours after the commencement of appropriate treatment.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments (refer to section 10) and routine cleaning of the environment (refer to section 13) should be employed.</p> <p>Adapted from: A.Arthur in consultation with Specialist Dermatologist, and I D Physician for RDH Infection Control Committee RDH <i>Infection Control Standards</i> 2001 Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting.</i> January 2004 Reviewed by Professor B Currie, Infectious Diseases Physician, RDH & Menzies June 2004</p>
Scope and application	All staff
Review cycle and responsibilities	Due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set be the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting.</i> January 2004 • Work Health Act, Section 29; • Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • CDC 2003 <i>Healthy skin program: Guidelines for the community control of scabies, skin sores and crusted scabies.</i> NTG. • RDH Nursing Policies and Standards, <i>Drug Administration Policy</i> 2003

Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.
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¹ Gooch et al, Danchaivijitr et al in /CG, 2004

31.4 Crusted Scabies (formally Norwegian Scabies)

Policy statement	Clinical judgement combined with the definitions and procedures outlined below will be used for the management of patients and their environment.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Crusted scabies is due to the scabies mite <i>Sarcoptes scabiei</i> but there is an over proliferation of scabies mites.</p> <p>Occurrence</p> <p>It can occur in association with underlying immune deficiencies, including human immunodeficiency virus (HIV), hematological malignancy, immunosuppressive therapy, connective tissue diseases such as SLE and neurologic illnesses, although the majority of cases in the Northern Territory have no obvious immune problems. In central Australia crusted scabies has been associated with HTLV-I infection.</p> <p>Clinical manifestations</p> <p>People with crusted scabies may have no itch and the rash manifests as generalised scaling and crusting of skin, often on buttocks, elbows and arms. Palms and soles of feet may be fissured. Cases can range from mild, with only a few patches on the skin to severe, covering the entire body. It may be misdiagnosed as other conditions such as psoriasis or fungal infections. As diagnosis by clinical picture may be difficult, microscopic examination of skin scrapings to detect the presence of mites and/or their eggs is recommended.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>Humans are the only source of infection and any person infested with either mites or eggs should be regarded as infectious. Patients with Crusted Scabies are highly infectious because they shed large numbers of mites in skin scales.</p> <p>Mode of transmission</p> <p>Transmission of scabies is by direct skin-to-skin contact. In health care establishments, they are mainly transmitted by intimate direct contact with an infested person, even when high levels of personal hygiene are maintained¹.</p> <p>Transmission to health care workers</p> <p>As per normal scabies direct skin contact is the main risk of transmission. Usually the mites do not survive very long out of contact with human skin. Considering the copious amounts of skin shedding with some crusted scabies patients the risk of environmental transmission is increased considerably with these patients.</p> <p>Risk of acquisition</p> <p>Susceptibility is universal and Crusted Scabies are considered highly contagious.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions, Skin precautions (refer to section 2.4) must be observed until Infectious Disease team has cleared the patient. This will usually be done following inspection of skin scrapings. (refer to section 2.4,</p>

	<p>skin precautions) Infectious Disease team will order treatment and a clinical pathway has been developed for standard treatment.</p> <p>Standard treatment regime:</p> <ul style="list-style-type: none"> • Shower/wash patient and ensure skin has dried and is cool before commencing treatment. • Obtain scabicide prescribed by medical team. • A nurse must apply lotion to the patient. Self-administration gives an unsatisfactory result. • Apply scabicide to body, including head, neck and scalp but avoiding mucous membranes. • Dress patient in hospital attire and, with patient consent, send personal clothing to hospital laundry in red plastic bags labelled in black with patient name, ward and “wash for infection control”. • Ensure lotion is re-applied after hand or body washing. • Shower/wash patient to remove lotion after the required length of contact time. • Change bed linen and patient attire. • Treat soft material furnishings with a surface insect spray. • Arrange for family contacts to be treated. Utilise Community Care Services if necessary. • Repeat treatment after one week, and advise patient that itching may persist for some time. <p>Health care workers</p> <p>HCWs with crusted scabies should be assessed by an Infectious Disease Physician to assess suitability to return to work. Discussions with Infection Control will determine if modified work practices are required.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments (refer to section 10) Refer to ‘Environmental cleaning additional precautions for appropriate cleaning of the environment (refer to section 13.2)</p> <p>Adapted from:</p> <ul style="list-style-type: none"> • RDH <i>Infection Control Standards</i> 2001 • CDC 2003 <i>Healthy skin program: Guidelines for the community control of scabies, skin sores and crusted scabies</i>. NTG <p>Reviewed by Professor B Currie, Infectious Diseases Physician, RDH & Menzies School of Research June 2004</p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational</i>

	<p><i>Health and Safety Statement 3.21 2000</i></p> <ul style="list-style-type: none"> • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • CDC 2003 <i>Healthy skin program: Guidelines for the community control of scabies, skin sores and crusted scabies</i>. NTG.
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ Gooch et al, Danchaivijitr et al in *ICG* 2004

Managing multi antimicrobial resistant organisms

32.1 Gram-negative bacteria

Policy statement	Clinical judgement combined with the definitions and procedures outlined below will be used for the management of patients and their environment.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>There is currently no agreed definition for multi resistant gram-negative bacteria. Multi resistant gram-negative bacteria are defined for the purpose of these guidelines as those gram-negative bacteria with resistance to two or more antimicrobial classes to which they would usually be susceptible, including those that have extended beta-lactamase enzymes (ESβLS) and organisms known to express inducible β-lactamase resistance (ESCAPPMs, or <i>Enterobacter</i> spp, <i>Serratia</i> spp, <i>Citrobacter freundii</i>, <i>Acinetobacter</i> spp, <i>Proteus vulgaris</i> and <i>Proteus penneri</i>, <i>Providencia</i> spp, <i>Morganella morganii</i>).</p> <p>Clinical manifestations</p> <p>As with other gram-negative bacteria, multi resistant strains may cause local wound infections and systemic infections such as abscesses, pneumonia, osteomyelitis, sepsis, endocarditis and meningitis.</p> <p>Occurrence</p> <p>Multi resistant gram-negative bacteria occur more often in acute care establishments, especially intensive care units. Patients with indwelling invasive devices (e.g., central venous catheters, urethral catheters) are more likely to be infected.</p> <p>The organisms may also be seen in patients with long-term indwelling catheters, especially those who have had frequent antimicrobial treatment or long-term antimicrobial prophylaxis. Often these patients have bladder colonisation rather than infection, but they remain a source of infection both for themselves and for others via HCWs' hands.</p> <p><u>Transmission</u></p> <p>A major route of transmission of multi resistant gram-negative bacteria within health care establishments is from patient to patient on the hands of HCWs who acquire the organism by direct patient contact or by handling contaminated materials. This is usually associated with inadequate hand washing. Unfortunately it has been shown that HCWs, particularly medical practitioners, frequently fail to wash their hands between patients.</p> <p>Transmission from patients with bladder colonisation may occur when HCWs manipulate urethral catheters or drainage bags.</p> <p>Because the bacteria are largely enteric in origin, "enteric precautions" may need to be considered.</p> <p><u>Management</u></p> <p>Patients</p> <p>Additional precautions, contact transmission (refer to section 2) are required along with the following measures:</p> <ul style="list-style-type: none"> • Where there are two or more patients in any health care establishment with the same multi resistant gram-negative bacteria, an investigation will be undertaken by Infection Control for potential common sources.

	<ul style="list-style-type: none"> • An alert system for readmission of these patients is facilitated by Infection Control on CareSys. • Assign patients to a single room with its own bathroom facilities, or cohort patients together by causative organism. • Wear a clean, nonsterile gown and gloves when entering room. • Remove gown and gloves before leaving room and perform strict hand hygiene. Ensure gown and gloves do not contact environmental surfaces before disposal. • Use mask if patient has colonised respiratory secretions. • Use dedicated equipment — stethoscope, sphygmomanometer, and thermometer. Clean and disinfect before reuse. • Use disposable equipment whenever possible. • Instruments used for dressing changes should not be transferred from patient to patient but should remain by the patient's bedside. • Consider the surfaces and furniture within the rooms to be contaminated as well as the patients themselves. • When cases are cohorted together these patients must be allocated a toilet exclusively for their use that is not to be used by other patients or their visitors. • Carriage of an ESβL is usually prolonged and is often seen among patients with significant underlying diseases and is likely to be present over several admissions if these fall closely together. • These patients should be isolated with their own toilet facilities wherever possible. • Infection Control should be contacted to advise on suitable placement / cohorting arrangements. <p>Health care workers</p> <p>No additional precautions are required for HCWs colonised with multi resistant gram-negative bacteria. Staff should adhere to standard precautions, particularly with respect to hand washing and disinfection.</p> <p>Instruments and environment</p> <p>Routine reprocessing of instruments (refer to sections 10) and routine cleaning of the environment (refer to section 13) should be employed.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia</small></p> <p><small>Reviewed by: Director of Pathology Dr G.Lum June 2004</small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers.

	<ul style="list-style-type: none"> • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement</i> 3.21 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual</i> 2008 • AICA 'Consensus MRO Screening and Clearance Recommendations' 2002. http://www.aica.org.au/images/PDF_Files/MRO%20Screening.doc
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

32.2 Managing multi-antimicrobial-resistant organisms (MROs)

Multi-resistant Oxacillin resistant *Staphylococcus aureus*. (MORSA), Non multi-resistant Oxacillin resistant *Staphylococcus aureus* (NORSA) both formerly known as Methicillin-resistant *Staphylococcus aureus* (MRSA)

Policy statement	Clinical judgement combined with the definitions and procedures outlined below will be used for the management of patients and their environment.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with <i>Staphylococcus aureus</i> with acquired resistance for oxacillin and commonly one or more other antimicrobial classes.</p> <p>The RDH is now using the terms (MORSA) Multi-resistant Oxacillin Resistant <i>Staphylococcus aureus</i> and (NORSA) Non multi-resistant Oxacillin Resistant <i>Staphylococcus aureus</i>.</p> <p>Methicillin¹ is no longer used to test for methicillin resistance at the RDH. Oxacillin is the antimicrobial now used to determine whether a <i>Staphylococcus aureus</i> is an ORSA (MRSA) or not.</p> <p>There are currently three main types of 'ORSA' circulating within Australia²:</p> <p>MORSA:</p> <ul style="list-style-type: none"> Classical oxacillin-resistant <i>Staphylococcus aureus</i>, also termed eastern Australia (EA) ORSA (resistant to β-lactams and at least two other classes of antimicrobial, e.g., macrolides, aminoglycosides and folate antagonists). <p>NORSA:</p> <ul style="list-style-type: none"> Community ORSA, also termed Western Australia (WA) MRSA or Kimberley ORSA (resistant to methicillin and β-lactams, generally susceptible to gentamicin); and Community ORSA different from WA MRSA, but similar to community strains in New Zealand and other South Pacific islands. <p>Clinical manifestations</p> <p>As with other strains of <i>Staphylococcus aureus</i>, NORSA/MORSA may cause skin lesions (impetigo, folliculitis) and systemic infections such as abscesses, pneumonia, osteomyelitis, sepsis, endocarditis and meningitis.</p> <p>Occurrence</p> <p>MORSA is common in many hospitals, and has a high propensity to become endemic (i.e., present at all times within a health care establishment). Additional precautions, contact transmission are recommended for all patients colonised or infected with ORSA (refer to section 2).</p> <p>Despite vigorous attempts at eradication over the last 20 years, ORSA continues to be the major health care associated pathogen in Australian acute care institutions.</p> <p>ORSA is endemic in the majority of Australian teaching hospitals. Occasional episodic outbreaks occur, especially in intensive care units. There is a high patient morbidity and mortality in association with health care associated MORSA, especially in:</p> <ul style="list-style-type: none"> intensive care units; cases of infected vascular and orthopaedic prostheses;

- cases of surgical wound infection; and
- cases where septicaemia and pneumonia develop.

Community strains of NORSA are currently most prevalent in Western Australia, but are being seen more often in South Australia and the Northern Territory as well². It has recently been reported that a different type of community strain, which appears to be similar to a community strain seen in New Zealand, has been identified in the eastern states⁴. While these types of ORSA appear more frequently in the community, they are capable of causing health care associated infections and outbreaks if introduced into a health care setting.

Intermediate glycopeptide-resistant ORSA have recently been detected in Australia and other countries. Healthcare establishments need to be aware that glycopeptide resistance is possible in MORSA/NORSA.

Transmission

Source of infection

NORSA/MORSA colonisation precedes infection. Infected and colonised hospital patients are the major primary reservoirs. People with purulent discharges or draining lesions are the most common sources during epidemics within health care establishments. Colonisation of hospital patients depends upon:

- length of hospital stay;
- nutritional status of patient;
- severity of underlying disease;
- presence of invasive devices;
- recurrent or recent antibiotic treatment; and
- presence of wounds.

Community reservoirs are less important and include:

- Patients recently discharged from hospital;
- chronic leg ulcer patients;
- residents of long-term care establishments (e.g., aged care facilities, hostels);
- intravenous drug users;
- patients with dermatological disease (e.g., eczema); and
- insulin-dependent diabetics.

Carriage by HCWs is usually transient, but some may harbour MORSA / NORSA in the nose or on the hands (contact dermatitis or eczema), and may act as primary reservoirs.

The level of NORSA/MORSA infection is usually indicative of the overall infection rate of the health care establishment. It may reflect:

- overcrowding of wards;
- heavy nursing load and understaffing;
- increased use of agency nursing staff unfamiliar with local infection control procedures; and
- higher concentrations of sicker patients.

As the rate of NORSA/MORSA infection rises, the global rate of health care associated infection rises within a health care establishment. Tackling the ORSA problem often reduces the overall burden of health care associated infections.

Mode of transmission

The major route of transmission of NORSA/MORSA within health care establishments is from patient to patient via the hands of HCWs who acquire the organism after direct patient contact or after handling contaminated materials. This is usually associated with inadequate hand washing.

Unfortunately it has been shown that HCWs, particularly medical practitioners, frequently fail to wash their hands between patients.

Other forms of transmission, such as from colonised HCWs or from air or environmental surfaces are usually less important. Certain body sites that are more resistant to eradication of ORSA include:

- Tracheostomy sites;
- chronic leg ulcers;
- wounds; and
- rectal and perineal regions.

Risk of acquisition

Infants and chronically ill people are at most risk from infection. The elderly and debilitated in acute care settings, those with congenital or acquired immunodeficiency, and those being treated with steroids or antineoplastic drugs are particularly susceptible. The vulnerability of patients is largely determined by the presence of indwelling devices (peripheral intravascular lines, central lines, urinary catheters, surgical drains, endotracheal tubes) and treatment or prophylaxis with selective antibiotics. Areas known to accommodate vulnerable patients, and in which multi-resistant organisms can become common, include intensive care areas (medical, surgical, general, neonatal), renal units and certain surgical units, especially cardiothoracic, orthopaedic, vascular and urology.

Management

Patients

RDH has designed its policy to enable minimisation of further transmission. Application of additional precautions is essential.

Minimisation involves ensuring that further transmission to new patients is minimised. Segregation and cohorting of known colonised and infected patients is required. These measures should be implemented where there is a clear risk to patients from active infection with ORSA, rather than from colonisation alone.

Additional precautions for NORSA/MORSA include the following:

- Infection Control monitors rates of NORSA and MORSA if it becomes apparent that the rate of NORSA and MORSA is disproportionately high, then specific and locally appropriate preventive measures will be undertaken. In this context, medical practitioners in collaboration with an Infectious Diseases Physician, Clinical Microbiologist and/or Infection Control practitioner will devise the most effective plan.
- An alert system for readmission of these patients is facilitated by Infection Control on CareSys.
- Assign patients to a single room with its own bathroom facilities, or cohort patients with NORSA/MORSA
- Wear a clean, nonsterile gown and gloves when entering room
- Remove gown and gloves before leaving room and perform hand hygiene. Ensure gown and gloves do not contact environmental

	<p>surfaces before disposal.</p> <ul style="list-style-type: none"> • Use mask if patient has colonised respiratory secretions • Use dedicated equipment — stethoscope, sphygmomanometer, and thermometer. Clean and disinfect before reuse. • Use disposable equipment whenever possible. • Instruments used for dressing changes should not be transferred from patient to patient but should remain by the patient's bedside. • Consider the surfaces and furniture within the rooms to be contaminated as well as the patients themselves. • Patients with established infections due to NORSA/MORSA, do not require routine follow up to establish "clearance" of the organism. Routine care does entail continued observation and appropriate intervention until the infection has resolved. <u>When a wound is infected or colonised with ORSA the patient is considered "infectious" until the wound has healed.</u> • This program <u>does not rely</u> on the identification of carriers of staphylococci on healthy skin. For this reason, screening swabs for <i>Staphylococcus aureus</i>, especially NORSA/MORSA, are no longer routinely performed on patients requiring admission or transfer. Where swabs for NORSA/MORSA screening are required, advice should be sought from Infection Control Practitioner and the Medical Microbiologist <p>Health care workers</p> <p>ORSA poses a minimal health risk to HCWs. Additional precautions, contact transmission (refer to section 2) must be observed. HCWs with skin conditions that predispose them to shedding should not care for patients with NORSA/MORSA</p> <p>Instruments and environment</p> <p>Routine reprocessing for instruments (refer to section 10) including meticulous cleaning of all patient care items (including stethoscopes, blood glucose monitors etc) before use on other patients, and routine cleaning of the environment (refer to section 13) should be employed. Particular attention should be paid to cleaning horizontal surfaces (to remove dust) and miscellaneous cleaning equipment.</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia</small></p> <p><small>Reviewed by: Director of Pathology Dr G.Lum June 2004</small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2009 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000

	<ul style="list-style-type: none"> • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2008</i> • AICA 'Consensus MRO Screening and Clearance Recommendations' 2002. http://www.aica.org.au/images/PDF_Files/MRO%20Screening.doc
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act. • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and additional precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.

¹ A synthetic antimicrobial, $C_{17}H_{19}N_2O_6NaS$, related to penicillin and most commonly used in treatment of infections caused by penicillinase-producing staphylococci.

²Turnidge and Bell in /ICG 2004

³ Nimmo et al in ICG 2004

32.3 Vancomycin-resistant *Enterococcus faecium* and *E. faecalis* (VRE)

Policy statement	Clinical judgement combined with the definitions and procedures outlined below will be used for the management of patients and their environment.
Objectives	Hospital transmission will be avoided.
Definitions/ Procedures	<p><u>Disease description</u></p> <p>Aetiology</p> <p>Disease is caused by infection with <i>Enterococcus faecium</i> or <i>E. faecalis</i> with the <i>vanA</i> or <i>vanB</i> resistance gene to the antibiotic vancomycin.</p> <p>Clinical manifestations</p> <p>Enterococci may be cultured from surgical wound infections, liver and intra abdominal abscesses, and foot ulcers in diabetic patients.</p> <p>Occurrence</p> <p><i>Enterococcus faecium</i> and <i>E. faecalis</i> are commensal bacteria in the gastrointestinal tract of healthy individuals. VRE has a high propensity to become endemic. Additional precautions, contact transmission are required for all patients colonised or infected with VRE (refer to section 2). Many of these bacteria are amplified by the use of broad-spectrum antimicrobials and may colonise patients and sometimes HCWs. These organisms do not generally appear to be more virulent than susceptible strains but, because of their resistance patterns, are more difficult to treat if infection occurs.</p> <p><u>Transmission</u></p> <p>Source of infection</p> <p>VRE readily colonises the bowel without causing symptoms of infection, but is not a cause of diarrhoea. If a patient with diarrhoea has VRE cultured from a faecal specimen without any other signs of systemic infection, they should be considered to be colonised.</p> <p>Certain groups of patients are at increased risk for VRE colonisation or infection, such as patients who:</p> <ul style="list-style-type: none"> • are critically ill (e.g., in intensive care units); • are immunosuppressed (e.g., oncology or transplant patients); • have had intra-abdominal or cardiothoracic procedures; • have a central venous catheter; • have a prolonged hospital stay; or • have had recent broad-spectrum antibiotic therapy, or who have received oral or intravenous vancomycin. <p>Most patients with VRE in Australia are colonised rather than infected, and become potential reservoirs of VRE.</p> <p>There are no data on the epidemiology of VRE in long-term aged care establishments in Australia. Overseas data suggest infection caused by VRE and transmission of VRE in these settings is rare.</p> <p>Mode of transmission</p> <p>A major route of transmission of VRE within health care establishments is from patient to patient via the hands of HCWs who acquire the organism after direct patient contact or after handling contaminated materials. This is usually associated with inadequate hand washing. Unfortunately it has been shown that HCWs, particularly Physicians, frequently fail to wash their hands between patients.</p>

Risk of acquisition

Vulnerability of patients is largely determined by the presence of indwelling devices (peripheral intravascular lines, central lines, urinary catheters, surgical drains, endotracheal tubes) and treatment or prophylaxis with selective antimicrobials, rather than immunological impairment, although the latter can play an enhancing role. Areas known to accommodate vulnerable patients, and in which multiresistant organisms can become common, include intensive care areas (medical, surgical, general, neonatal), renal units and certain surgical units, especially cardiothoracic, orthopaedic, vascular, urology, haematology and oncology units.

Management**Patients**

Additional precautions, contact transmission must be observed.

Screening

RDH will perform routine screening in the following patients:

- All patients returning to RDH who have had an ICU, HDU, Renal, Transplant, or Oncology stay in an interstate hospital. They will be considered clear if they have had negative screens from the interstate hospital. Contact infection control on 28045 to liaise with the interstate hospital.
- All patients with diarrhoea in ICU, HDU, and Renal. Microbiology will automatically test all stool specimens sent from these areas for VRE.

RDH will perform screening in the following scenarios:

- Following a potential case of hospital transmission all patients on the ward or unit will require clearance screening.
- Wards housing a patient colonised or infected with VRE may require all patients to have weekly routine screening, if they have diarrhoea, or considered a high risk of transmission by ID physician, or Infection Control.

Screening Material:

Preferably stool, second choice rectal swab.

Case Management Guidelines:

RDH patients found to be colonised with VRE will be nursed in the VHF isolation area of ward 4B (area 5, bed 13 and 14). No known positive VRE patients will attend dialysis in 7A.

Notification of VRE Case:

- Director of Microbiology or Microbiology Registrar/Medical Microbiologist will notify Specialist or Registrar of relevant service of a VRE isolate.
- Infection Control Practitioner will facilitate the transfer of inpatient to 4B adult isolation unit.
- Notify 4B as soon as possible to allow preparation of VHF area.

Isolation Precautions:

- Contact precautions.
 - Long sleeved gown and gloves for patient contact or for handling body
-

	<p>substances.</p> <ul style="list-style-type: none"> • Hand hygiene to be performed after removal of gloves and other personal protective attire. • Patient meals to be served on normal meal tray. • Soiled linen to be handled, bagged and processed as for infectious linen. • Use dedicated equipment — stethoscope, sphygmomanometer, and thermometer. Clean and disinfect before reuse. • Renal Dialysis staff will identify a suitable unit with separate hand basin and toilet for positive clients. Contact precautions are necessary, nursing staff must be dedicated to VRE clients only. Thorough environmental cleaning and decontamination of equipment is essential. • Infection Control will ensure patients with VRE are identified on the computerised alert system. <p>Health care workers</p> <p>No additional precautions are required for HCWs colonised with VRE. <u>Staff must adhere to contact precautions.</u></p> <p>Instruments and environment</p> <p>Enterococci persist in the environment. Disinfection with a phenolic disinfectant should be undertaken in addition to standard cleaning. Bed screen and curtains are to be changed and all surfaces washed and dried. Inspect before re-use. Disposable cleaning cloths are to be used and equipment should be appropriately reprocessed before use in other areas. Standard sterilisation procedures for instruments should be employed (refer to section 10)</p> <p><small>Adapted from: Communicable Disease Network of Australia (CDNA), 2004, <i>Infection Control guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting (ICG)</i>, Government of Australia, Australia</small></p> <p><small>Reviewed by: Director of Pathology Dr G.Lum June 2004</small></p>
Scope and application	All staff
Review cycle and responsibilities	Infection control policies are next due to be reviewed 2007 unless prior need arises due to changes in CDNA guidelines. In response to a specific incident or failing to meet limits set by the Infection Control Committee using ACHS clinical indicators.
Associated legislation and other strategic documentation	<ul style="list-style-type: none"> • Communicable Disease Network of Australia (CDNA) <i>Infection Control guidelines for the prevention of transmission of infectious diseases in the health care setting</i>. January 2004 • Work Health Act, Section 29; Duty of Care and section 30; Duties of Occupiers of Workplaces, Section 31; Duties of Workers. • Royal Darwin Hospital Policy and Instruction Manual <i>RDH Occupational Health and Safety Statement 3.21</i> 2000 • Australian Council on Healthcare Standards <i>Clinical Indicator Users' Manual 2003</i> • AICA 'Consensus MRO Screening and Clearance Recommendations' 2002. http://www.aica.org.au/images/PDF_Files/MRO%20Screening.doc
Compliance and responsibilities	<ul style="list-style-type: none"> • Every employee has a responsibility to provide a safe work place and safe systems of work in accordance with the Work Health Act.

	<ul style="list-style-type: none"> • The managers of each unit have a responsibility to ensure standard and additional precautions are being undertaken. • Infection Control reviews the effectiveness of standard and additional precautions through surveillance and outbreak monitoring and implements a response when required. • Infection Control is responsible for initial standard and contact precaution education for every employee at orientation. Ongoing education is also provided in response to problems being identified.
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Appendix1

Notifiable conditions to be reported by all CLINICIANS in the NT

Refer to the link below

http://www.health.nt.gov.au/Centre_for_Disease_Control/Notifiable_Diseases/index.aspx

Appendix 2

ROYAL DARWIN HOSPITAL WASTE MANAGEMENT PLAN

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INTRODUCTION

The Draft Waste Management Plan for Royal Darwin Hospital (RDH) has been developed based on the Draft Guidelines for Waste Management for NT DHCS Health Care Facilities (HCF), with reference to the National Health and Medical Research Council's (NHMRC) National Guidelines for Waste Management in the Health Care Industry, 1999.

The Draft Plan will replace the Policy for Garbage Removal and Segregation in the Policy & Instruction Manual, section 3.13, when endorsed by the Infection Control Committee.

This Plan represents the result of consultation with those key personnel who are involved in waste management at RDH.

Application

This Plan, when endorsed, will be RDH policy, applying to all RDH Staff. The plan will assist managers and personnel of RDH to implement standards and comply with relevant NT legislation and national guidelines.

Clinical waste management and minimisation are important issues facing RDH due to:

- the risk of needle stick injuries and potential acquisition of Hepatitis B virus (HBV), Hepatitis C virus (HCV) and Human Immunodeficiency virus (HIV), and other blood borne diseases associated with inappropriate sharps management and other clinical waste; and
- community concern about environmental issues such as smoke generation, general littering and proper waste disposal.

By following this plan, Royal Darwin Hospital has a basis to achieve continuous improvement in clinical waste management issues.

Aims

The aims of these guidelines are to:

- protect public health and safety
- provide a safer working environment
- minimise waste generation and environmental impacts of waste treatment/disposal; and
- to assist in compliance with legislative requirements.

GLOSSARY AND ABBREVIATIONS

Autoclave	A vessel designed to sterilise materials by exposing them to steam under pressure.
DHCS	Department of Health and Community Services.
DIPE	Department of Infrastructure, Planning and Environment.
RDH	Royal Darwin Hospital
Interim Policy	Interim Policy for the Disposal of Departmental Clinical Waste and Medical Waste, 1995
National Guidelines	National Guidelines for Waste Management in the Health Care Industry, NH&MRC, 1999.
Guidelines	Guidelines for Waste Management for DHCS HCF, 2003
PPE	Personal Protective Equipment
Trade Waste Code	Refers to the Power and Water Corporation's Trade Waste Management System, which must comply with for trade waste, including liquid wastes generated by Health Care Facility.

WASTE MANAGEMENT STRATEGY AND PLAN

The NH&MRC's "National Guidelines for Waste Management in the Health Care Industry" recommends that all generators of clinical and related waste must develop and periodically review a comprehensive waste management strategy. The Waste Management Plan for RDH, when endorsed will act as the RDH Waste Management Strategy.

RDH waste management plan:

- highlights the accountabilities and responsibilities of management, staff and contractors;
- defines the various categories of the waste stream;
- states that waste generation be minimised as far as possible;
- identifies appropriate disposal procedures;
- identifies how all waste is to be disposed of safely;
- provides for adequate and on-going education; and
- is to be readily available to all workers involved.

As part of the plan, consideration has been given to:

- Auditing of identified waste management streams;
- Follow-up monitoring of waste management streams;
- Examining waste segregation procedures;
- Having appropriate waste receptacle units at the point of waste generation;
- Evaluating of waste minimisation activities;
- Displaying appropriate signage;
- Developing contingency plans and emergency procedures, eg. spills;
- Instigating a waste tracking documentation system from waste generation to final disposal;
- Instructing staff in understanding their responsibilities in waste management.

ORGANISATIONAL ISSUES

About this section

This section provides details of the legislative requirements, accountabilities and responsibilities of all those involved in waste management.

Legislative requirements

RDH Staff need to observe all public health and occupational health legislative requirements. They must also comply with legislation, standards and guidelines applicable to the environment. The following is a list of relevant legislative and other requirements when dealing with waste management:

- NT legislation
 - *Waste Management and Pollution Control Act*
 - *Waste Management and Pollution Control (Administration) Regulations*
 - *Radiation (Safety Control) Act*
 - *Radiation (Safety Control) Regulations*
 - *Work Health (Occupational Health & Safety) Act*
 - *Work Health (Occupational Health & Safety) Regulations*
 - *NT Poisons and Therapeutic Goods Act*
- Other legislation/standards/guidelines
 - *Dangerous Goods Act*
 - *Dangerous Goods Regulations*
 - NH&MRC's National Guidelines for Waste Management in the Health Care Industry 1999
 - NEPC's Movement of controlled waste between States and Territories: National Environment Protection Measure (1998)
 - AS 4031-1992 AND AS/NZS 3816-1998 - Sharps puncture-resistant containers

Accountabilities and responsibilities

Management and contractors

Employers and contractors are responsible for:

- Providing appropriate information;
- Providing education;
- Providing training; and
- Ensuring safe work environment is developed and maintained.

Employees and contractors

Employees and contractors are responsible for:

- Compliance with health and safety instructions;
- Correct use of all personal protective equipment; and
- Avail themselves of relevant information and training programs.

CATEGORISATION OF WASTES

About this section

This section gives an overview of the waste streams usually present in RDH. The definitions and explanations that are provided relate to the minimum standards to be applied.

Waste Streams

The main waste streams are:

- Clinical waste;
- Pharmaceutical waste
- Cytotoxic waste
- Chemical waste;
- Radioactive waste;
- Recyclables;
- Organic waste;
- Liquid waste;
- Confidential and
- General waste.

It should be noted that clinical, cytotoxic, pharmaceutical, chemical and radioactive wastes are also classified as hazardous wastes under the Dangerous Goods Act.

Clinical waste

Clinical waste is that which has the potential to cause sharps injury, infection or public offence, and includes sharps, human tissue waste, laboratory waste.

Clinical waste usually includes the following sub-categories:

- discarded sharps;
- laboratory and associated waste directly involved in specimen processing;
- human tissues, including materials or solutions that contain free-flowing or
- expressible blood.

Sharps are objects or devices having acute rigid corners, edges, points or protuberances capable of cutting or penetrating the skin. Sharps include:

- syringes with needles attached
- needles
- atraumatic needles
- lancets
- ampoules
- scalpel blades
- poster pipettes
- IV giving sets piercing tips.

Pharmaceutical waste

Pharmaceutical waste, excluding cytotoxics, may arise from:

- pharmaceuticals that have passed their recommended shelf life;
- pharmaceuticals discarded due to off-specification batches or contaminated packaging;
- pharmaceuticals returned by patients or discarded by the public;
- pharmaceuticals that are no longer required by the establishment; and
- waste generated during the manufacture and administration of pharmaceuticals.

Non-hazardous materials such as normal saline or dextrose need not be considered as pharmaceutical wastes.

Excess stock of pharmaceuticals, either current or expired, may be returned to the pharmacy for appropriate disposal, by incineration, or distribution.

The following general principles should be observed:

- Pharmaceutical waste should be placed in non-reactive containers.
- Wherever possible, this waste should be incinerated. Where incineration is not possible, advice should be sought from the Chief Health Officer.
- Where practicable, non-flammable liquids (eg antibiotic solutions) should be absorbed by surplus absorbent such as sawdust enclosed in either a wet bag or a plastic bag, and then incinerated.
- Pharmaceutical waste can be disposed of as clinical waste if both pharmaceutical and clinical wastes are incinerated together.
- Such waste should not be discharged into sewerage systems.

Cytotoxic waste

Cytotoxic waste is material that is, or may be, contaminated with a cytotoxic drug during the preparation, transport or administration of chemotherapy. Cytotoxic drugs are toxic compounds known to have carcinogenic, mutagenic and/or teratogenic (causing foetal and/or neonatal abnormalities) potential. Direct contact with cytotoxics may cause irritation to the skin, eyes and mucous membranes, and ulceration and necrosis of tissue.

The following general principles should be observed:

- Cytotoxic waste must be incinerated in an approved incineration facility at the recommended temperature (in the secondary burning chamber) of at least 1100 ° Celsius.

Chemical Waste

- Chemical wastes included in the Dangerous Goods Regulations and Poisons and Therapeutic Goods Act are also included in this stream. Chemical waste can include for example, mercury, cyanide, azide, formalin, and glutaraldehyde, which are all subject to special disposal requirements.

Radioactive Waste

Radioactive waste is material contaminated with radioactive substances which arises from medical or research use of radionuclides. It is produced, for example, during nuclear medicine, radio immunoassay, and some bacteriological procedures. It may be in a solid liquid or gaseous form and be included in the body waste of patients under treatment. Reference should be made to the NT *Radiation (Safety Control) Act* and the *Radiation (Safety Control) Regulation*. Further advice may be sought from the DHCS' Manager of Radiation Health.

Radioactive waste, once lead shielded and allowed to decay to a safe level as set by the Chief Health Officer, is no longer deemed to be radioactive waste. Some radioactive wastes are also classified as hazardous waste in the *Waste Management and Pollution Control (Administration) Regulations*.

Recyclable Products

These are items composed of materials or components which are capable of being re-manufactured or reused. Items are considered recyclable only if facilities are available to collect and reprocess them.

Organic Products

This category includes wood, garden waste, food, vegetable and natural fibrous material waste and biosolids, which are capable of being composted or could be used to enhance lawns or gardens. Generally, this category of waste is disposed of to landfill.

Liquid Waste

At RDH, these wastes can include grease trap waste and used lubricating oils. They also include other wastes that are normally discharged to the sewer. It should be noted that the NT Government has recently put into place Trade Waste legislation that requires licensing of the premises and prior approval of any wastes discharged into the sewer. DIPE should be contacted in this instance.

Confidential Waste

Confidential waste is any waste that has patient/client or staff identifiers on it or that is considered sensitive in nature as it concerns RDH business. Confidential waste may also be waste that is considered confidential by the originator of the waste. Confidential waste is in the majority of cases is paper based and includes pathology request forms, hand over sheets and reports generated by the Caresys system. All confidential waste is to be shredded prior to landfill.

General Waste

General waste as a separate category includes any waste not included above and which is not capable of being composted, recycled, reprocessed, or re-used. This stream also includes treated clinical waste, incontinence pads, drained dialysis wastes, sanitary waste and disposable nappies. All general waste can be disposed of to landfill.

WASTE MANAGEMENT

About this section

This section explains the opportunities for effective waste management strategies at RDH.

Minimisation

Waste minimisation has the potential to reduce hazards to human health and the environment, reduce costs, conserve resources, and protect the environment.

Effective waste minimisation strategies include:

- Waste avoidance;
- Waste reduction;
- Product Substitution;
- Product Changes;
- Re-use; and
- Recycling.

Waste Avoidance

RDH should review housekeeping and purchasing policies to avoid excessive waste, without compromising work standards or environmental outcomes. Simple product modifications to minimise waste streams include requesting the manufacturer and supplier and/or Central Sterile Supply Departments to remove unnecessary materials supplied in sterile procedure packs, eg dressing, venipuncture and lumbar puncture sets. This may include requesting the manufacturer and supplier to reduce unnecessary packaging or replace polystyrene foam with recyclable or biodegradable fillers.

Waste Reduction

Reduction can be achieved through product substitutions, product modification, and procedural changes.

Product Substitution

Products should be assessed prior to purchase in terms of their potential to generate problematic waste, result in toxic emissions, or be detrimental to the operation and maintenance of treatment facilities.

Assessment of products can be achieved through:

- evaluating product Material Safety Data Sheets;
- liaisons with manufacturers and suppliers to determine the composition of the product and potential waste output;
- seeking technical waste disposal advice from consultants or relevant authorities; and
- considering the percentage of recycled materials used or the amount of recyclable components present.

Product selection and purchase criteria should incorporate controls to ensure that less toxic/hazardous products are selected, without compromising product performance. Products such as polyvinyl chloride (PVC) plastic compounds should be progressively replaced by products made from ethylene vinyl acetate copolymers. Organic pigments

should replace heavy metals pigments, commonly used for colouring waste bags and sharps containers.

Product substitution can often lead to cost effective solutions. The types of substitutes to be considered include biodegradable cleaning compounds and safer chemicals.

Product Changes

RDH management should liaise and work with manufacturers/suppliers to change or modify products to incorporate both product performance and waste disposal. Where substitution cannot be achieved due to a limited range of products, management should approach manufacturers/suppliers to determine whether it is possible to change the product.

There are many examples of product changes which set precedents eg change from solvent based products to water based; lead based paints to less hazardous alternatives.

Procedural Changes

Simple changes to patient care procedures can be made to minimise the wastes generated, eg:

- where it is not necessary to use dressing packs for minor procedures eg removal of sutures, practitioners should use alternative equipment so that the minimum amount of materials are used;
- when preparing for dressings, clean and sterile procedures, practitioners should critically assess materials required;
- small, colour coded containers should be accessible at the site of the procedure so that recyclable materials can be readily segregated;
- review frequency of waste collection, size and location of containers and bags.

Re-Use

Re-useable items should be preferred to disposable items whenever it is clinically appropriate (please refer to the Infection Control Standards 2001 for single use policy), environmentally sound, practical and cost effective to do so. Items that may be feasibly reused should not be discarded. Patient care items or items that are contaminated with blood and/or body fluids should not be reused.

Items that may be reused are washable nappies, crockery, cutlery and reusable kidney dishes.

Recycling

A large number of wastes are generated by RDH that could be separated for recycling. By separating recyclables, quantities of waste to landfill can be reduced by up to 60%. RDH by implementing recycling may see immediate cost reductions and increasing benefits in the future.

Cost Effectiveness

The cost and volumes (weight) of each waste stream should be measured using an audit process standardised against an activity level such as occupied bed days, the number of admissions/separations or kilograms of waste per patient per day.

Operating and waste treatment/disposal costs should be reviewed periodically to evaluate any fluctuations. DHCS should collect this data on an annual basis to allow comparisons between RDH and other HCF and to establish benchmarks.

Waste Segregation

Waste segregation is the practice of classifying waste and placing it into the appropriate waste container immediately after the waste is generated. Effective segregation will reduce costs, promote recycling, and assist to protect the health and safety of all.

Importance of Waste Segregation

All RDH Staff should segregate all waste to assist in the protection of personnel from injury and infection by preventing hazardous waste entering inappropriate waste streams.

Correct segregation is necessary to ensure that materials which are reusable or recyclable are not discarded. Correct segregation and containment of all wastes are required in order to comply with the provisions of the Waste Pollution Control Act. The mixing of wastes is not permitted. If mixing occurs, wastes containing more than 200g of hazardous waste are to be classified as hazardous.

Segregation Practice Achievement

Effective segregation can be best achieved through:

- providing education and training programs to all personnel who generate waste;
- identification of material composition (using Material Safety Data Sheet);
- establishing identifiable colour coding, and labelling;
- provide suitable containers in appropriate and suitable locations;
- incorporating quick and efficient waste disposal methods into patient care procedures. This may require the redesign or reorganisation of procedure trolleys and working environments; and
- ensuring all waste can be easily, safely and properly segregated at the point of generation.

Waste labelling

All bag/containers of waste must be marked to identify the Unit (eg Ward 4B) and date of collection.

RDH has adopted the following labelling practices:

- Clinical Waste – all containers and plastic bags are to be yellow and marked with the international bio-hazard symbol in black with wording that states “Medical Waste”
- Cytotoxic Waste – all containers and bags are to be purple and marked with the cell in telophase symbol in white, with wording that states “Cytotoxic Waste”.

- Radioactive Waste – all containers and plastic bags are to be red and marked with the international symbol in black with wording that states “Radioactive Waste”.
- General Requirements regarding containers and plastic bags or bins – there should be:
 - easily legible symbols and words;
 - no overfilling (ie $\frac{3}{4}$ bag filling only);
 - a capacity indicator;
 - a warning regarding storage in wet areas;
 - a warning against placing hands in the container or touching waste; and
 - advice that the container or bag should be securely sealed once full

HANDLING, STORAGE AND TRANSPORT

Sharps

Sharps represent the major cause of accidents involving potential exposure to blood borne diseases.

Some important safe practices involving sharps are:

- The management and safe disposal of sharps is the responsibility of the practitioner that generates the sharp.
- Non-reusable sharps must not be resheathed and must be discarded at the point of use into an approved sharps container that meets AS 4031-1992. Resheathing of used needles is not recommended due to the high risk of needle stick injuries.
- Needles must not be removed from disposable syringes for disposal, purposely broken, or otherwise manipulated by hand.

Sharps containers must:

- not be filled to more than the line indicated on the container,
- not be double handled from one container to another,
- be positioned for easy access,
- be out of reach of children (approximately 1.2m from floor level).

Disposal of Retractable Needles and needle guards

These are not considered as sharps, if the device has been activated, due to the auto-retraction of the needle into a puncture proof plastic casing. Disposal is either by sterilisation steam under pressure then landfill as for clinical waste.

Management of waste (other than sharps)

Clinical waste must be segregated and contained at the source of generation using appropriately colour coded and labelled containers.

- Receptacles for clinical waste must:
 - comply with AS 4031-1992 and Australian Standard/New Zealand Standard 3816-1998; and
 - be clearly identifiable and be available at the point of use.
- A designated secure area and container in the dirty core areas are for the short term storage of clinical waste prior to collection by RDH Waste Management Facility staff. This area should:
 - be protected from unauthorised access;

Spill Management

RDH will manage waste spills as they occur. In the case of gross spills, containment is the principal control measure. RDH will develop a spill management plan that identifies spill management procedures and when the Fire Services Hazmat section become involved.

Personnel involved in spill management should receive education and training in emergency procedures and handling requirements.

Spill kits should be readily available throughout RDH. Spill kits that have been used should be disposed of with the type of waste that has been cleaned up; eg. cytotoxic spill kits should be disposed of with cytotoxic waste.

Clinical waste spill kit

Clinical waste spill kit should contain at least:

- broom, a pan and scraper, mop and mop bucket
- a large (10 litre) reusable plastic container or bucket with fitted lid, containing; 2 clinical waste bags for the disposal of clinical waste;
- disinfectant containing (1%) 10,000 ppm available chlorine or equivalent;
- rubber gloves suitable for cleaning
- detergent, sponges / disposable cloths
- personal protective equipment including eye protection, an apron or long sleeve impervious gown, a facemask, heavy-duty gloves.
- incident report form
- waste spill sign.

Cytotoxic spill kit

Cytotoxic spill kit should contain at least:

- mop and mop bucket, a pan and scraper.
- a large (10 litre) reusable plastic container or bucket with fitted lid, containing;
- 2 cytotoxic waste bags for the disposal of cytotoxic waste
- 2 hooded overalls, shoe covers, long heavy duty gloves, gloves, a face mask and eye protection, absorbent towelling / absorbent spill mat
- incident report form
- waste spill sign

Mercury spill kit

See Appendix 3 for RDH Protocol for Mercury Spill Kits.

External Transport

Before transferring waste off-site or interstate for treatment and disposal, specific reference should be made to the *Australian Code for the Transport of Dangerous Goods by Road and Rail, National Manifest and Classification System* and the *National Guidelines for the Management of Wastes*.

Storage

RDH Waste Management Facility is a dedicated building, with a separate loading bay to store waste, prior to disposal.

The holding area is located away from food and clean storage areas, and is not accessible to the public, has a lockable door and rigid impervious flooring. Clean up facilities, spill kits, appropriate drainage and bunding is part of the building structure. Where wastes are stored in bins, the bin is to be locked.

A specific area, with adequate drainage, for washing equipment is part of the building structure.

TREATMENT AND DISPOSAL METHODS

About this section

This section outlines the treatment / disposal/utilisation options for waste streams generated in RDH. Disposal methods must conform to DIPE and DHCS requirements.

RDH Waste Management Facility must comply with the regulatory control requirements imposed by the Waste Management and Pollution Act and other relevant environmental legislation.

RDH Waste Management Facility uses an autoclave and mincing system to treat waste.

Responsibility

RDH has the responsibility to ensure that its wastes are transported and treated appropriately before disposal. RDH has determined mechanisms that facilitate monitoring of contracts with waste transporters. (See also Waste Tracking)

See Appendix 1 for RDH Waste Management Chart.

Clinical Waste

The bulk of waste falls into the category of general waste and with correct segregation, 15 per cent is likely to be classified as clinical waste.

All clinical waste is to be treated by sterilisation, by steam under pressure, then mincing, so the waste is unrecognisable, and as treated by a process acceptable to DHCS may be reclassified for disposal as general waste.

Microbiological and pathological wastes should be sterilisation, by steam under pressure, before leaving the laboratory. For further clarification refer to Australian and New Zealand Standard 2243.3:1995 – Safety in Microbiology Laboratories, Part 3 - Microbiology and Part 4 - Degrees of Hazard. Autoclave tape and bag indicators must be used to show autoclaving has been completed.

Distinguishable body parts, including products of conception, are to be cremated at a licensed facility to ensure that this form of waste is handled with dignity.

Bulk body fluids, blood, suctioned fluids, excretions, and secretions in non-disposable containers may be carefully poured down an appropriate sluice connected to a sewer.

Cytotoxic Waste

Cytotoxic waste needs to be destroyed by incineration. It must be incinerated at a licensed controlled waste facility. No alternative is acceptable.

Pharmaceutical Waste

Pharmaceutical waste must be incinerated at a controlled licensed waste facility. Certain pharmaceuticals may only be destroyed by authorised officers. Pharmaceutical waste must not be disposed through a sewerage system.

All Pharmaceutical waste is to be returned to the Pharmacy.

Chemical Waste

Non-liquid chemical waste containing hazardous chemicals, including empty containers, must be assessed and classified to facilitate the correct management and disposal of the waste. Non-liquid chemical waste that is assessed as inert, solid or industrial waste may be disposed of to appropriately licensed landfill.

Reclamation and recycling of hazardous chemical wastes, especially solvents, should be considered whenever feasible. DHCS must be consulted for advice on reclamation, recycling, and disposal.

Liquid chemical waste that meets Power and Water's discharge standards and requirements can be disposed of to the sewer.

Amalgam waste must not be incinerated. For the handling and storage of mercury related dental waste, the 1988 NH&MRC's publication "Recommendations on Dental Mercury Hygiene." should be referred to. It is recommended that mercury wastes be returned to metal or precious metal recyclers for reclamation.

Radioactive Waste

At this time RDH does not produce any radioactive waste. A privately owned Nuclear Medicine Department (NT Medical Imaging) operates in RDH and are licensed under the Radiation (Safety Control) Act. NT Medical Imaging has a spill and waste management policy in place.

Radioactive waste is monitored by the Nuclear Medicine Department radiation safety officer, or delegate, before it is disposed of. All procedures should be in accordance with the Radiation (Safety Control) Regulations. Further advice may be sought from the Manager, Radiation Health, Environmental Health Program in Casuarina Plaza.

Disposal of radioactive substances that are classified as hazardous waste by the Waste Regulation requires DHCS approval beforehand. Dumping these wastes into the environment is prohibited.

Radioactive waste, when lead shielded and allowed to decay to a safe level as set by DHCS, is no longer deemed to be radioactive waste.

Organic Products

Organic waste should be recycled wherever possible; otherwise disposal is via landfill. RDH may consider, in the future alternatives for recycling of organic waste eg worm farming.

Liquid Waste

Liquid waste must be managed and disposed of in accordance with the Waste Management and Pollution Control Act, or other relevant regulatory requirements or Power and Water requirements as applicable. (See the Power and Water Corporation's Trade Waste Code)

It is illegal to discharge liquid waste that is assessed as hazardous or Group A waste under the Waste Regulation into a sewer or waterway. Such wastes must be managed and

disposed of in accordance with the Waste Regulation and/or other relevant regulatory requirements as applicable. Generally, these wastes need to be treated to required discharge standards prior to disposal.

Where on-site sewerage management facilities are used, no wastes such as non-biodegradable chemicals, disinfectants, expired pharmaceuticals and other trade wastes may be placed into the system.

Solid food scraps should not be disposed of through a grinder to the sewerage system, but should be drained and disposed through the solid waste stream or compost/green waste service.

Confidential Waste

Confidential waste should be shredded and then may be disposed of to landfill with general waste.

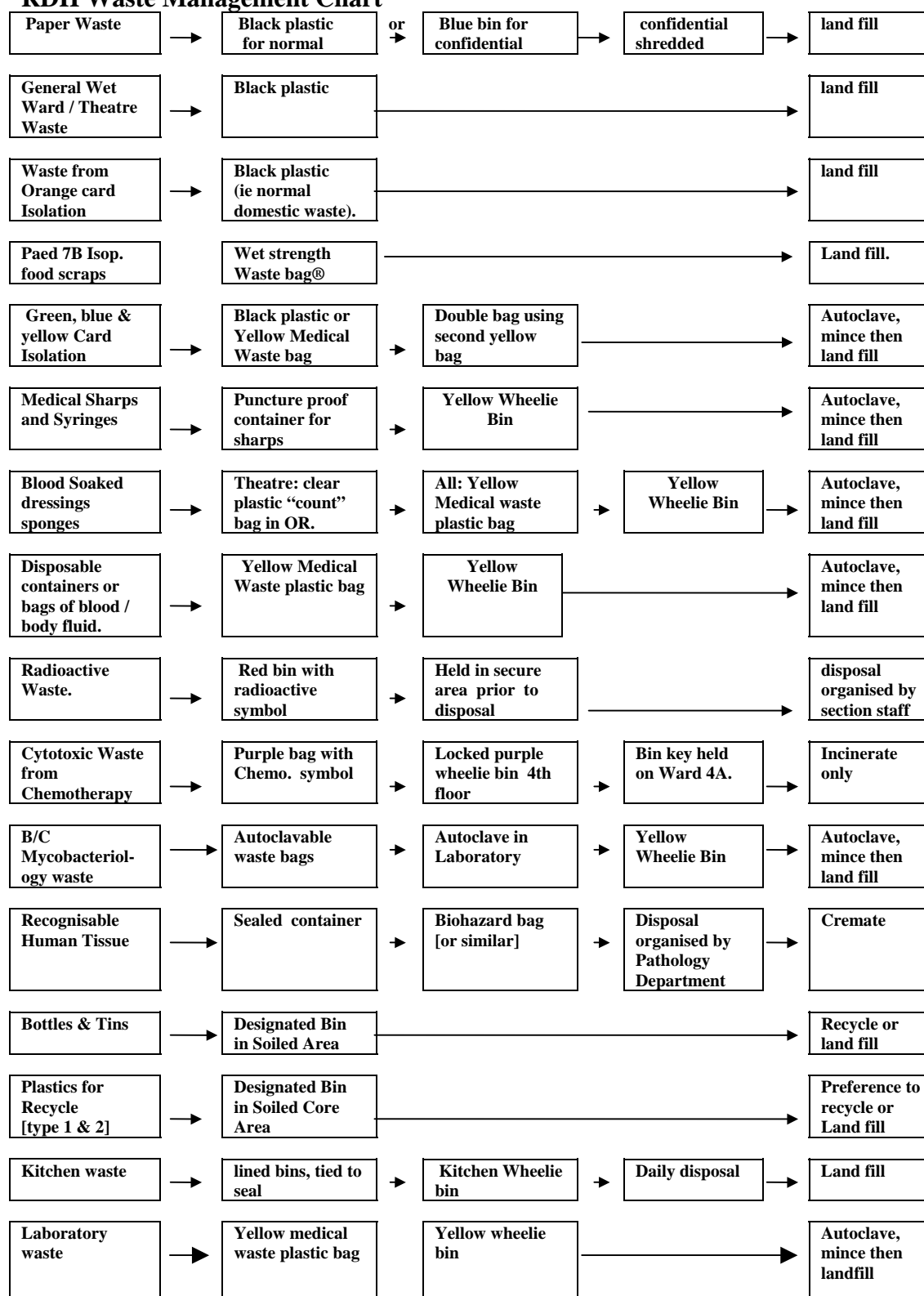
General Waste

General waste that is classified as inert or solid waste, and cannot be recycled, reprocessed or re-used may be disposed of to landfill licensed to accept waste classified as inert or solid waste respectively.

Plastics

Plastics that can not be recycled should be disposed to landfill with general waste.

APPENDIX 1 RDH Waste Management Chart



Appendix 2

UNIT SPECIFIC COLLECTION AND DISPOSAL PROCEDURES

GENERAL WARDS

INTRODUCTION

The following procedures are to be read in conjunction with the RDH Waste Management Plan and are applicable to the following Wards:

2A, 2B, 3A, 2B, 4A, 4B, 5B, 6A, 6B, 7A Renal, 7B Rehab, 7C, ICU, RPU, Palliative Care, Paediatric Isolation (7B) and all of the ground floor.

COLLECTION PROCEDURES

a) Patient Waste

Self-adhesive bags are to be attached to each bedside locker for the collection of General Waste.

b) Ward Waste

A waste bin is to be placed beneath sinks in corridors. These containers are to be labelled "**General Waste**" for the collection of non-contaminated hand towels and other general waste.

A pedal bin is to be located at each end of the patient bay area; one bin to be labelled "**General Waste**" and the other to be labelled "**Clinical Waste**".

Each Soiled Goods Areas to have:

1. 2 x 240 litre yellow wheelie bins, 1 for the A side and 1 for the B side, for the collection of clinical Waste.
2. 2x 240 litre wheelie bin with a black or green lid, 1 for the A side and 1 for the B side, for the collection of general waste.
3. A recycling container for the collection of glass, plastic and cans, newspapers, cardboard/paper and magazines.

c) Nurse Stations

Each Nurse Station is to have at least one waste bin for the collection of general waste. The bin(s) are to be labelled "**General Waste**".

A cardboard/plastic container for recyclable paper is to be located in each Nurse Station

d) Sharps Collection

Sharps containers are to be located throughout Wards at the discretion of the CNM. Sharps containers are to be filled to indicator line only and **not** to be filled to overflowing.

e) Disposal Procedures

Ward staff are to remove all clinical and general waste at least twice a day, from patient's rooms and general ward areas and dispose of in appropriate wheelie bins located in the Soiled Goods Area. No clinical waste is to be left sitting on the floor beside a full bin.

PCA's or Cleaners will label each bag of waste for identification. General waste and Clinical waste wheelie bins will be removed at least twice a day by the RDH Waste Management Facility workers and disposed of at RDH Waste Management Facility as outlined in the RDH Waste Management Plan.

The PCA is to remove full sharps containers every day and replace with fresh containers. Full sharps containers are to be placed in the Soiled Goods Area for collection.

RECOVERY/ICU

INTRODUCTION

The following procedures are to be read in conjunction with the RDH Waste Management Plan and are applicable to Recovery and ICU only.

a) Patient Waste

All waste generated by patients in ***ICU is to be regarded as Clinical.***

Each bedspace in Recovery is to have a 'locker bag' attached to each bed for the collection of waste generated from patients.

Each bedspace in ICU is to have a waste bin which is labelled '***Clinical Waste***' for the collection of waste generated from the care of patients.

b) Ward Waste

A waste bin is to be placed beneath sinks. These containers are to be labelled "***General Waste***" for the collection of non-contaminated hand towels and other general waste.

Each Soiled Goods Area is to have:

1. 2 x 240 litre yellow wheelie bins bin, labelled with ICU or recovery, for the collection of Clinical Waste.
2. 2 x 240 litre wheelie bin with a black or green lid, labelled with ICU or Recovery collection of general waste.
3. A recycling container for the collection of glass, plastic and cans, newspapers, cardboard/paper and magazines.

c) Nurse Station

Each Nurse Station is to have at least one waste bin for the collection of general waste. The bin(s) are to be labelled "***General Waste***".

A cardboard/plastic container for Recyclable Paper is to be located in each Nurse Station.

d) Sharps Collection

Sharps containers are to be located in Recover and ICU at the discretion of the CNM. Sharps containers are to be filled to indicator line only and ***not*** to be filled to overflowing.

e) Disposal Procedures

Ward Staff are to remove all clinical and general waste at least twice a day, from patient's rooms and general ward areas and dispose of in appropriate wheelie bins located in Soiled Goods Area. No clinical waste is to be left sitting on the floor beside a full bin.

PCA's or Cleaners will label each bag of waste for identification. General waste and Clinical waste wheelie bins will be removed at least twice a day by the RDH Waste Management Facility workers and disposed of at RDH Waste Management Facility as outlined in the RDH Waste Management Plan.

The PCA is to remove full Sharps containers every day and replace with fresh containers. Full Sharps containers are to be placed in the Soiled Goods Area for collection.

OPERATING THEATRES

INTRODUCTION

The following procedures are to be read in conjunction with the RDH Waste Management Plan and are ***applicable to Operating Theatres only.***

WASTE COLLECTION/SEGREGATION

Waste collection and segregation is to be completed during the cleaning up process following each theatre case.

All solutions, including skin preparations and body fluids are to be disposed of down the sluice, unless in disposable containers (eg disposal suction containers). Clinical items, eg. Bloodstained sponges, suction lines, disposable suction containers etc., must be sealed in yellow plastic bags for disposal.

Sharps are to be placed in the Sharps container on the anaesthetic trolley.

Endoscopic and disposable instruments are to be placed back into their plastic moulds and repackaged into their individual boxes. They are to be sealed with a clinical waste label.

Small disposable instruments, eg. Trocars etc. are to be placed in Sharps containers.

All items are to be taken on a disposal trolley to the Disposal Area.

ACTION IN THE DISPOSAL AREA

All bags containing clinical waste are to be sealed and placed in a yellow clinical waste bag. ***This bag is to be sealed and marked with the Theatre number.***

Boxes containing disposable instruments are to be securely sealed in the yellow plastic bag. ***This yellow bag is to be sealed and marked with the Theatre number.***

Any waste, which has not been contaminated with blood or body fluids, may be classed as general waste. It is to be placed in a clear bag, sealed and ***marked with the Theatre number.***

DISPOSAL PROCEDURE

a) Clinical Waste

Yellow bags containing clinical waste are to be placed into the 240 litre yellow wheelie bins. Full wheelie bins are to be placed in the Soiled Goods Area. Clinical waste bins are not to be overfilled. Clinical waste in bags is not to be left on the floor beside full bins.

An empty bin is taken back to disposal area after it has been thoroughly wiped over to ensure cleanliness.

b) General Waste

General waste is to be placed into clear bags in the black lid "General Waste" wheelie bins. Collection of empty bins is as above.

c) Sharps

The PCA is to remove full Sharps containers every day and replace with fresh containers. Full Sharps containers are to be placed into the 240 litre yellow wheelie bins kept in the Soiled Goods Area.

d) Non Autoclavable waste Bin

See Operating Theatre Procedure OS 17

This bin is for disposal of placentas, organs, limbs, fetuses, or any large mass of, or usually recognisable body tissue and blood in amounts over 200 ml. An orange-lidded yellow wheelie bin is available in the clean up/wet area. Anatomical waste will be wrapped and placed in the bin with a label **AW** attached to the bin. These special bins will be labelled at delivery. The bin is locked while waiting for collection by the RDH Waste Management Facility workers and disposed of as outlined in the RDH Waste Management Plan.

EMERGENCY DEPARTMENT / OUTPATIENTS

INTRODUCTION

The following procedures are to be read in conjunction with the RDH Waste Management Plan and are applicable to the Emergency Department (ED) and Outpatient Department, including P&O, (OPD) only.

COLLECTION PROCEDURES

a) Patient Waste

All waste generated by patients in ***ED is to be regarded as Clinical.***

Each bedspace in ED is to have a 'locker bag' attached to each bed for the collection of waste generated from patients.

Each ED Treatment area is to have a waste bin which is labelled '***Clinical Waste***' for the collection of waste generated from the care of patients.

All OPD clinic areas are to have a waste bin which is labelled '***Clinical Waste***' for the collection of waste generated from the care of patients.

b) Department Waste

A waste bin is to be placed beneath sinks. These containers are to be labelled "***General Waste***" for the collection of non-contaminated hand towels and other general waste.

2 pedal bins are to be located in the pan/dirty utility in ED; one bin to be labelled "***General Waste***" and the other to be labelled "***Clinical Waste***".

Each Soiled Goods Area is to have:

1. 2 x 240 litre yellow wheelie bins bin, labelled with ED or OPD, for the collection of Clinical Waste.
2. 2 x 240 litre wheelie bin with a black or green lid, labelled with ED or OPD collection of general waste.
3. A recycling container for the collection of glass, plastic and cans, newspapers, cardboard/paper and magazines.

c) Triage Station / Office Areas

The triage station and all office areas are to have a general waste bin. These containers are to be labelled '***General Waste***' for the collection of non-clinical waste.

A cardboard/plastic container for recyclable paper is to be located in each office area.

d) Tea Room

A waste bin is to be placed in the tea room area for general waste.

e) Sharps Collection

Sharps containers are to be located throughout ED and OPD. at the discretion of the CNM. Sharps containers are to be filled to indicator line only and **not** to be filled to overflowing.

f) Disposal Procedures

PCA or Cleaning Staff are to remove all clinical and general waste at least twice a day, from treatment areas and general office areas and dispose of in appropriate wheelie bins located in the Soiled Goods Area. No clinical waste is to be left sitting on the floor beside a full bin.

PCA's or Cleaners will label each bag of waste for identification. General waste and Clinical waste wheelie bins will be removed at least twice a day by the RDH Waste Management Facility workers and disposed of at RDH Waste Management Facility as outlined in the RDH Waste Management Plan.

The PCA is to remove full Sharps containers every day and replace with fresh containers full Sharps containers are to be placed in the Soiled Goods Area for collection.

KITCHEN

INTRODUCTION

The Following procedures are to be read in conjunction with the RDH Waste Management Plan and are ***Applicable to the Kitchen only***

FOOD WASTE

All food waste is to be disposed of in lined wheelie bins stationed in the dishwashing area. This includes eggshells, onion skins and bones.

Solid fats and cooking oils are to be disposed of in containers at the rear of the Kitchen, for collection by Waste Contractors.

Catering staff are to remove the wheelie bins and take the wheelies bins, after each meal clean up, to the loading dock for collection by the RDH Waste Management Facility Workers and disposed of at RDH Waste Management Facility as outlined in the RDH Waste Management Plan.

RECYCLABLE WASTE

Glass and aluminium cans, plastic and newspapers are to be disposed of into recycling bins located in the tray return area.

The Catering Staff are to remove the recycling bins and take them, at collection times, to the loading dock for collection by the RDH Waste Management Facility Workers and disposed of at RDH Waste Management Facility as outlined in the RDH Waste Management Plan.

Cardboard boxes (not waxed) are to be taken to the loading dock for collection by the RDH Waste Management Facility Workers and disposed of at RDH Waste Management Facility as outlined in the RDH Waste Management Plan.

Waxed cardboard boxes are disposed of in lined wheelie bins as general waste.

ADMINISTRATIVE OFFICES

INTRODUCTION

The following procedures are to be read in conjunction with the RDH Waste Management Plan and are applicable to all offices, administrative areas and photocopy rooms.

COLLECTION PROCEDURE

a) General Waste

All offices are to have one small waste bin for the collection of general waste. No recyclable waste should be placed in these bins.

b) Confidential Waste

All confidential waste is to be shredded. There is a shredder in the photocopier room opposite medical administration.

c) Recyclable Waste

A cardboard/plastic container for recyclable paper/cardboard/newspapers etc is to be located in each office.

Aluminium cans, glass bottles, plastic fruit juice containers and milk containers, newspapers and cardboard/papers are to be placed in the recycling bin at the designated point.

Note: Any item, which is placed next to a waste bin without any indication that it is to be removed, will not be removed.

d) Disposal Procedure

All waste is to be removed from office areas at least daily by housekeeping services staff and placed in appropriate areas for collection by the RDH Waste Management Facility workers and disposed of at RDH Waste Management Facility as outlined in the RDH Waste Management Plan.

Requests for special removal of waste are to be made to the Housekeeping Services.

PATHOLOGY

INTRODUCTION

The following procedures are to be read in conjunction with the Waste Management Plan and the Pathology Safety Manual and are applicable to Pathology only.

COLLECTION PROCEDURES

a) General Waste

All sections have 1-2 general waste bins for the collection of general waste. No medical or sharp materials must be placed into these containers. All cardboard boxes or other large general waste containers must be placed into the corridor to be collected by the housekeeping staff.

b) Confidential Waste

All request slips, pathology results and other confidential matter be placed in the blue wheelie bin, with one bin located on either floor.

c) Medical and Infectious Waste except Mycobacterial waste.

All medical waste and infectious waste are discarded into the yellow biohazard bags and then placed in yellow wheelie bins.

d) Mycobacterial waste

All Mycobacterial specimens and cultures are placed into double-bagged autoclave bags and autoclaved. Once autoclaved they are placed into yellow biohazard bags.

e) Blood Culture Bottles

All inoculated blood culture bottles are placed into double-bagged autoclave bags and autoclaved. Once autoclaved they are placed into yellow biohazard bag.

f) Sharps

Yellow sharp containers of various sizes are used through out the laboratory for disposal of sharps, glass, blades, etc. They must not be overfilled. The lids are to be sealed before collection.

g) Non Recognisable Human Tissue and Body Parts

All liquid formalin is to be removed before placing the tissue into yellow biohazard bags and then placed in yellow wheelie bins.

h) Disposal Procedures

Laboratory staff will remove all sharps and blood culture waste on a daily basis. All bags will be tied securely.

Housekeeping staff will remove medical waste on a daily basis. All bags will be tied securely.

Tissue samples are removed when required usually on a monthly schedule

Medical waste and tissues are placed into yellow medical waste bags then yellow wheelie bins. The bins are located on the lower ground floor West wing. The yellow wheelie bin are taken by transport and emptied on a daily basis.

Blue confidential wheelie bins are collected when full and contents to be shredded.

Appendix 3

DEPARTMENT OF HEALTH AND COMMUNITY SERVICES

ROYAL DARWIN HOSPITAL

Protocol for Mercury Spill Kits

Supply, Replacement and Disposal of Kits

Royal Darwin Hospital provides non-disposable *Mercury Collectors*® for picking up mercury spills. One kit should last a clinical area about 12 months.

All *Mercury Collector*® kits will be replaced during the first week of July each year. The Yard /Transport Manager will collect used kits and replace with a new one. Used kits will be disposed of appropriately.

Who is responsible for the initial clean of the spill and final clean-up?

It is the responsibility of the person finding / causing the spill to report it to the manager. On Ward areas nursing staff will be responsible for the cleaning of the spill. In other areas the manager will determine the most appropriate person.

What to do:

1. Put on surgical mask and non-sterile gloves.
2. Place *Mercury Collector*® on a firm base and remove lid.
3. Press foam pad firmly against the surface on which the mercury was spilled. (The foam cells trap the spilt mercury).
4. Replace the lid on to the collector by pressing down hard to click lid over first ridge.
5. Screw lid down tightly to compress the foam against the grid. The mercury is forced out of the sponge into the base of the container.
6. Release the tension on the sponge by partly unscrewing the lid so that it is just caught in place.
7. A piece of tape should be used to secure the lid to prevent lid from coming off if knocked.
8. Store the *Mercury Collector*® in the ward drug room with this instruction card.

PLEASE NOTE THE FOLLOWING COMMENTS ABOUT MERCURY

Long term exposure to mercury or exposure to high levels of mercury has the potential to cause adverse health effects on the central nervous system, liver, kidneys and brain.

Mercury may be absorbed into the body through the skin, by inhalation or ingestion. To eliminate personal risk or environmental contamination, all mercury spills should be cleaned up in accordance with the above protocols.

Issued by the RDH Occupational Health and Safety Committee - September 2002

Appendix 4

ROYAL DARWIN HOSPITAL

OPERATIONAL PLAN FOR THE WASTE MANAGEMENT FACILITY

OVERVIEW

Royal Darwin Hospital (RDH) has a new facility for coordinating waste disposal. It is known as the Waste Management Facility (WMF). This plan provides an overview of the procedures for the safe and appropriate disposal of waste in the new facility

- A centrepiece of the new facility is a high temperature steam sterilisation unit known as the Autoclave. The unit treats all medical waste via a sterilisation process which is then minced and sent to land fill.
- The Autoclave operates at a temperature of 140 degrees Celsius for 40 minutes. Our process exceeds the recommended temperature of 132 degrees Celsius operating for a minimum of 30 minutes. The computerised operating system will not commence sterilisation until the operating temperature reaches 140 degrees Celsius. It then sterilises for a period of 40 minutes.
- An integral feature of the Autoclave system is its ability to track the waste through the steam treatment. This is achieved by all wheelie bins that are used for collection of medical waste having a unique serial number sticker in the form of a 'bar' code permanently attached to the side of the bin.
- A second requirement is for the waste generation area having a unique bar code which defines its exact location eg a Ward or work unit, doctor's surgery, etc.
- Medical waste is brought to the facility from these generator areas and the scanner is used to receipt the bin. It is then stored in a refrigerated cool-room until it can be introduced into the Autoclave for disposal.
- The facility only accepts 240 litre wheelie bins.
- The Transport, Yard and Waste Management Manager oversights the computerised Autoclave unit system and retains electronic records as verification of the treatment process and integrity for waste put through the system. Charges to clients are also levied from this data.

BIN REGISTRATION

- Staff go to the collection point and scan the site serial code then scans the wheelie bin.
 - The bin is then transported to the WMF where the bin is again scanned as being received.
 - It is then stored in the refrigerated cool-room until being introduced into the Autoclave.
 - As its being loaded onto the hoist to dump into the autoclave, it is again scanned. The bin weight is then automatically fed into the computer system.
 - The hoist will fail to operate and empty the bin unless the process is followed correctly from start to finish eg
 - there are missing details such as the bin's receipt into the WMF
 - a site code was not scanned etc.

- This will enable a full waste tracking system to operate and all waste processed detailed as to where and when it was picked up from and when it was processed

OPERATOR'S START UP PROCEDURE

- **Turn on the computer**
 - There are three 'icons' located on the screen.
 - To ensure the system is working, there should be three icons showing.
 - Double click on each of the icons which opens a screen of information.
 - Next step is to 'minimise' screen.
- These icons represent:
 - The waste tracking system
 - The loading and treatment cycles and
 - The operation of the hand scanner

There is a 'cradle' situated at the side of the computer control panel. Each time the scanner is placed back into the cradle, any new information from bins scanned etc will automatically be downloaded to the computer system and then uploads the new information back to the scanner.

- **Select treatment located on the touch screen**
- **Press login when login screen appears**
- **Enter the password**
 - Operator
 - *Left blank on purpose.*
- When the password is accepted press **Loading and Treatment**
- Release the **RED** emergency stop button
- Reset the controls (push **green** button)
- Push the fault button (indicator must turn **green** before system will operate)
- Open the waste tracking screen
 - **Send data from handheld**
 - To send data from the handheld
 - On the handheld,
 - Select send data
 - Place the handheld in the cradle, and select ok
 - On the PC, in waste track, from the main menu, select
 - Transfer / download from palm
 - The application will ask "ready to receive" select yes
 - When this is finished give the driver back the hand scanner.

- Now begin the process of receiving all the waste bins at the autoclave when all bins are scanned down load all information to the computer. **(repeat Send data from handheld)**

LOADING

1. Check the tilt hopper is down.
2. Check the 'robot' is fully reversed or in the park position
3. Before loading the first bin, move the waste drawer forward approximately 300mm or 12 inches so that no rubbish falls to the front of the drawer.
4. Place the bin on the scales and scan the bin - check the details on the screen.
5. When the details appear on the screen showing the bin weight, press Save which puts the details into the computer.

Start loading

1. Hold the bin up button (shown on the screen as MGB) to raise and empty the bin into the waste drawer
2. When the bin is emptied, press MGB down button to lower the bin
 - You should be able to load two bins in the same spot before moving the waste drawer forward
3. Repeat steps 3 & 4 until the waste drawer is fully loaded by moving the waste drawer forward or reverse to ensure an even load across the length of the waste drawer.

DO NOT OVERLOAD THE WASTE DRAWER eg do not have it higher than the beam light AND ENSURE THE WASTE IS NOT SPILLING OVER THE SIDES. THE WASTE DRAWER IS NOT TO BE LOADED WITH MORE THAN A MAXIMUM OF 10 BINS PER LOAD.

4. When the waste drawer is full, turn the process Key and hold for a few seconds until the process begins.

NOTE

- The process now runs automatically starting by pushing the waste drawer into the steriliser then begins the steam processing. After the processing is completed, it then automatically unloads and tips the treated waste in tilting hopper.
- When the sterilised load comes out and is tipped, the hopper will return to the 'park' position.
- You will have to lift up the tilting hopper using the computer touch screen.
- When the tilt hopper is fully extended, walk around to the grinder controls and start the grinder.
- When the load has finished grinding, turn the grinder off and bring the tilt hopper back to the park position (tilt hopper down).

UNDER NO CIRCUMSTANCES IS ANY PERSON IS TO ENTER THE MACHINERY AREA WHILE THE SYSTEM IS OPERATING.

IT IS SAFE HOWEVER FOR A PERSON TO REMAIN AT THE CONTROL PANEL

- When the system has started operating, the bins that have been emptied can now be cleaned.
- Turn the bin washer On at the switch located on the end of the autoclave.

- Turn the bins upside down and place on the bin washer.
- The rotating roller will catch the bin and take it through the washer.
- Walk around the other end of the washer and take the bin off when it comes through the washer and place against the wall
 - you should be able to place 5 bins on the washer at one time
 - it will give you enough time to walk around and collect the bins as they come through the other end.
- When the bins from outside contractors are washed they will be placed in the hard stand.

**PLEASE ENSURE THE HARD STAND IS LOCKED WHEN YOU EXIT THE GATE.
REPORTING OF PROBLEMS**

If you notice any problems with the autoclave or other machinery,

- During Business Hours call Engineering Services on 28556 and report the fault.
- After-hours ring Switchboard on 999 and ask to be put through to the Airducter On-Call person.
- Record details of the problem in the diary eg what happened, what time and if it was fixed.

**EMPTYING OF STORAGE SKIP BASED AT THE WASTE MANAGEMENT FACILITY
(ACCOMMODATING THE TREATED AUTOCLAVE WASTE)**

When the waste has accumulated in the skip to a level where it requires emptying, the $\frac{3}{4}$ full light will flash. The Operator will contact Wastemaster on the number made available and ask for the skip to be removed, emptied, washed and returned. The Wastemaster contact will advise the date and time of the removal and the Autoclave operator will remove the electric plug on the day of pick-up.

The turnaround time is anticipated to be about 1.25 hours.

OPERATION OF WASTE TRACKING

Collection of bin data

1. Take hand scanner to site location
2. Press red button on hand scanner to activate
3. Click OK
4. Click collect data
5. Enter operator ID. Eg RDH00000
6. Click collect bins
7. Enter customer ID/location
8. Scan bins
9. Repeat steps 7&8 until all bins are scanned
10. Click done
11. Click exit
12. Press red button on hand scanner

Down load bin data

1. Press red button on hand scanner
2. Put hand scanner in cradle

3. Click send data
4. Click OK
5. Open waste track
6. At top left hand corner click transfer
7. Click down load from palm
8. Click yes in centre window on hand scanner
9. Finish with hand scanner and remove from cradle

Scan bins into autoclave

1. Press red button on hand scanner
2. Click collect data
3. Enter operator ID eg: RDH00000
4. Click receive bins (at autoclave)
5. Scan bins (NB this is all bins delivered to autoclave)
6. Click done
7. Click exit
8. Place hand scanner in cradle
9. Click send data
10. Click OK
11. Finish with hand scanner
12. Click transfer in top left hand corner of waste track program
13. Click down load from palm
14. Click yes in centre window of hand scanner

DELIVERY OF MEDICAL WASTE TO WASTE MANAGEMENT FACILITY

This procedure will outline the duties of the truck driver in the delivery of clean bins to the main ward block, and delivery of medical waste to RDH waste management facility

- Before the driver leaves the waste management facility, pick up a scanner and check if the battery is fully charged.
- All bins must be scanned before they are removed from the soiled rooms , this is necessary as the tracking of each bin is paramount to the efficiency of the waste tracking system
- The driver will clear all medical waste from the new building and replace full bins with empty bins.
- The late shift will collect any bins after hours and leave against the wall in the corridor the scanner will be left in the yard tea room for collection the next day
- This procedure will be repeated in the main ward block until all medical waste is collected.
- Any waste bins taken from a soiled room will be replaced asap.

When all bins are collected, the driver will return to the waste management facility and empty the truck. Pass the hand scanner to the operator for down-loading data into the computer. The operator will then hand back the scanner for future collection.

General waste pick up

- Rubbish will be picked up from the Staff Village every second day and the Houses and Flats on alternative days this will be done before going to the main ward block.
- When the waste skip is placed at the loading dock the will need to be split up and all the bins picked up and emptied into the skip. All waste bins will then be taken to the waste management facility for washing before being returned to the village. Please ensure a bin is left behind so any rubbish generated can be deposited in to it.
- After the outside rubbish run is completed the driver will proceed to pick up all the waste accumulated overnight and put out in the morning put all general waste into the skip.
- After all the general waste is cleaned up the driver will pick up the cardboard and take to the waste management facility he will then unload the trolleys and the operator will put the cardboard in to the compactus.
- The driver will traverse the floors throughout the day and collect any medical and general waste and dispose of such waste as per instructions this will be repeated throughout the day
- The back of truck will be hosed out at the end of each day before clean bins are loaded for the following morning.

- On the weekend the truck can be cleaned inside and out and the rear compartment can be washed and brushed with det-con then hosed out.

DUTIES of the AUTOCLAVE OPERATOR

- The operator will go to Nightcliff Renal on Monday, Wednesday, Friday and Saturday to pick up all yellow bins and return to the hospital. Upon return top up for a cycle from either ED, ICU or Theatre.
- The operator will bring over a load of clean yellow bins from the waste facility to the main ward block first thing in the morning.
- The operator will collect as many of the medical waste bins as possible and return to the autoclave and down load all collected data.
- Before down loading any data the operator will run and end of shift report.
- The operator will then receive all waste bins at autoclave and down load all data received
- Before loading the robot do a visual check of the autoclave and do the daily checks (check oil levels and wipe sensors)
- After every thing is down loaded start the process of loading the robot
- If there is insufficient bins for a cycle the operator will go to the main ward block and help the driver bring down any general rubbish and medical waste
- All waste bins delivered to the waste management facility will be washed through the bin washer.
- The Waste Management Facility will be hosed down at the end of each days shift
- Tea room and toilets are the responsibility of both the operator and the driver ensure that they are kept clean and tidy and clean daily.

Appendix 3

CJD

[http://www.health.gov.au/internet/main/publishing.nsf/Content/2804E9F9B95357F7CA256F190003B4DA/\\$File/goodCJD%20Chapter%2031.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/2804E9F9B95357F7CA256F190003B4DA/$File/goodCJD%20Chapter%2031.pdf)

Abbreviations and acronyms

AIDS acquired immune deficiency syndrome
AMA Australian Medical Association
ANCA Australian National Council on AIDS
ANCAHRD Australian National Council on AIDS, Hepatitis C and Related Diseases
ANZFA Australia New Zealand Food Authority
ARCBS Australian Red Cross Blood Service
AS Australian Standard
AS/NZS Australian Standard/New Zealand Standard
BCG Bacille Calmette–Guerin (vaccine)
BSE bovine spongiform encephalopathy
cCJD classical Creutzfeldt–Jakob disease
CDC Centers for Disease Control and Prevention (United States)
CDNA Communicable Diseases Network Australia
CFU colony forming unit
CJD Creutzfeldt–Jakob Disease
CMV cytomegalovirus
CNS central nervous system
CSF cerebrospinal fluid
CVC central venous catheter
DNA deoxyribonucleic acid
EBV Epstein–Barr Virus
ELISA enzyme-linked immunosorbent assay
ERCP endoscopic retrograde cholangiopancreatography
ESBL extended spectrum beta-lactamase producing bacteria
FDA Food and Drug Administration (United States)
GENCA Gastroenterological Nurses College of Australia
GESA Gastroenterological Society of Australia
HAV Hepatitis A Virus
Anti-HBc HBV core antibody
HBe HBV ‘e’ antigen
HBIG HBV immunoglobulin
Anti HBs HBV surface antibody
HBs HBV surface antigen
HBV Hepatitis B Virus
HCV Hepatitis C Virus
HCWs health care workers
HEPA high-efficiency particle arrest
HIV Human Immunodeficiency Virus
HSV Herpes Simplex Virus (HSV1 and HSV2)
ICG Infection Control Guidelines for the Prevention of Transmission of Infectious Diseases in the Health Care Setting
ICP infection control practitioner
IgG/IgM immunoglobulins
IV intravenous
MDR-TB multidrug-resistant Tuberculosis
MMR Measles-Mumps-Rubella (vaccine)
MORSA Multi- Resistant Oxacillin Resistant *Staphylococcus aureus*
MRI magnetic resonance imaging
MRSA Methicillin-Resistant *Staphylococcus aureus*
NHMRC National Health and Medical Research Council

NORSA Non multi-resistant Oxacillin Resistant *Staphylococcus aureus*
OHS occupational health and safety
ORSA Oxacillin Resistant *Staphylococcus aureus*
PCR polymerase chain reaction
PEP post exposure prophylaxis
PICC peripherally inserted central catheter
PPE personal protective equipment.
RSV Respiratory Syncytial Virus
SARS Severe Acute Respiratory Syndrome
SSI surgical site infection
TB Tuberculosis
TGA Therapeutic Goods Administration (Australia)
TIG Tetanus immunoglobulin
vCJD variant Creutzfeldt–Jakob Disease
VHF Viral Haemorrhagic Fever
VRE Vancomycin-Resistant Enterococci
VZV Varicella-Zoster Virus (chickenpox and shingles)
WHO World Health Organization
ZDV Zidovudine
ZIG Varicella Zoster Immunoglobulin

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